

APPENDIX F

Aquifer Test Data

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APPENDIX F

AQUIFER TEST DATA

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F-1	Hydraulic Conductivities from Aquifer Tests, Petroleum Oil, and Lubricant Outparcel

List of Acronyms

cm/sec	centimeters per second
ft/day	feet per day
ft/ft	feet per feet
POL	Petroleum, Oil, and Lubricant
PVC	polyvinyl chloride

F.1.0 Introduction

To further develop an understanding of the Petroleum, Oil, and Lubricant (POL) hydrogeologic system, single well aquifer tests were conducted on newly-installed monitoring wells during April/May of 1997. Monitoring well locations are shown on Figure 4-1.

The objectives of the tests were to:

- Provide estimates of hydraulic conductivity
- Provide a better understanding of the POL Outparcel hydrogeologic system
- Aid in the selection and subsequent design of remedial alternatives for contaminated groundwater.

The following discussions describe the procedures and results of the tests.

F.2.0 Aquifer Test Description and Procedures

Single well aquifer tests were conducted to provide hydrologic parameter estimates. Single well tests included slug and well recovery tests. The following discussions provide brief descriptions of both tests and the procedures used.

F.2.1 Slug Tests

Slug tests were conducted in wells MW-POLA-117A, -118, -119, and -121 to estimate near-field aquifer hydraulic conductivity. Except for MW-POLA-121, slug tests consisted of two separate steps; slug in (positive displacement) and slug out (negative displacement). At MW-POLA-121, only a slug in test was performed due to the very slow recovery time. The slug consisted of a piece of hollow polyvinyl chloride (PVC), partially filled with sand, approximately 2 inches in diameter by 5.5 feet long. The slug contained a pointed bottom piece to minimize water-level disturbance. The hollow PVC slug was designed to float on the water column and displace a set volume of approximately 0.13 cubic feet (0.98 gallons). To perform the test, the slug was rapidly inserted into or removed from the monitoring well. Water-level changes were recorded using a pressure transducer attached to a data logger installed in the well being tested.

Detailed procedures for conducting the slug test in each well were as follows:

- Measured and recorded the static water level using a water-level indicator
- Installed a pressure transducer attached to a data logger into the water column
- Lowered the slug within 1 foot of the water level, then rapidly lowered the slug into the well until submerged to a set level based on the buoyancy of the slug and recorded the slug-in time
- Monitored the water level using a data logger until the water level returned to within 10 percent of the static level, if possible
- Rapidly pulled the slug out of the water column, and recorded the slug-out time (except for MW-POLA-121)
- Monitored the water level using a data logger until the water level returned to within 10 percent of the static level, if possible, during the slug-out step and stopped the test
- Transferred the data from the data logger onto a computer diskette.

F.2.2 Well Recovery Tests

Well recovery tests were performed on new monitoring wells MW-POLA-117B and -120.

Procedures for the test were as follows:

- Measured the static water level with a water-level indicator and recorded the level
- Placed a constant-velocity submersible pump in the well and began extracting water
- Periodically measured the amount of drawdown with a water-level meter and the flow rate with a graduated container and a stopwatch
- Shut off the pump and monitored the recovery of the water level with a water-level meter until the level stabilized
- Estimated the well hydraulic conductivity.

F.3.0 Aquifer Test Data Analysis and Interpretation Methods

This section discusses the specific analysis techniques used to evaluate the aquifer test data.

Included are single well analysis methods for both slug and well recovery tests conducted on new wells installed for this study.

F.3.1 Previous Studies

One investigation (ESI, 1993) has been conducted to determine the aquifer properties at the POL Outparcel. This investigation included:

- Water level measurements to determine the horizontal gradients
- Slug tests to determine the hydraulic conductivity in the POL Outparcel.

Results of the water level measurements are presented on Figure A-7 in Appendix A. The results of the slug tests are presented in Table F-1.

F.3.2 Interpretive Methods

Slug test results were analyzed using the assumptions and methods of Bouwer and Rice (1976) and Bouwer (1989). Well recovery tests were analyzed using the assumptions and methods of Theis and Jacob (Jacob, 1963). Details of each interpretation method are presented below.

F.3.2.1 Bouwer and Rice Method - Slug Test Analysis

Slug tests were performed on newly-installed monitoring wells MW-POLA-117A, -118, -119, and -121, where well development indicated that recharge was too slow to perform well recovery tests. Data from slug tests were analyzed using the method of Bouwer and Rice (1976) and Bouwer (1989). This method can be applied to fully, partially penetrating, partially screened, perforated, or open wells. The method was originally developed for unconfined aquifers, but can also be applied to confined or semiconfined aquifer conditions (Bouwer, 1989). The method is designed to measure the hydraulic conductivity of the aquifer surrounding the screened portion of the well. This test is a single well test and provides only a very near field estimate of hydraulic conductivity.

F.3.2.2 Theis and Jacob Recovery Test Analysis

Well recovery tests were performed on newly-installed monitoring wells MW-POLA-117B and -120. Hydraulic conductivities were estimated from post-well development pumping records. Well recovery data was processed using "Aquifer Test" software developed by Waterloo, Hydrogeologic. The analytical method used was the Theis-Jacob Analysis Recovery Test based on Jacob (1963). The following assumptions were made in accordance with this method:

- The aquifer is confined and has an "apparent" infinite extent

- The aquifer is homogeneous, isotropic, of uniform thickness over the area influenced by pumping
- The piezometric surface was horizontal prior to pumping
- The well was pumped at a constant rate
- The well is fully penetrating
- The water removed from storage is discharged instantaneously with decline in head
- The well diameter is small so that well storage is negligible.

The monitoring wells were installed in weathered, fractured sandstone bedrock which is inherently heterogeneous and anisotropic. Groundwater flow occurs through open fractures and, to a lesser extent, through the sandstone matrix. Since there is no defined lower aquifer boundary, the well cannot be defined as fully penetrating. Based on these factors, this test is used to provide an estimate of near-field hydraulic conductivity.

F.4.0 Aquifer Test Results

This section presents the results of the analysis of aquifer test data. These include slug and well recovery tests.

F.4.1 Slug Test Results

Table F-1 lists the results of slug tests conducted on the new monitoring wells along with the results of the previous investigation (ESI, 1993). These results should be used with discretion as they represent values for the near field characteristics of the well tested. Hydraulic conductivity values (averages of the slug in and slug out tests) range from 9.8×10^{-6} centimeters/second (cm/sec) (2.8×10^{-2} feet/day [ft/day]) at PL-MW-106 to 1.9×10^{-3} cm/sec (5.3 ft/day) at PL-MW-108. The differences in the results of slug in (rising head) tests and slug out (falling head) tests in newly-constructed wells ranged from zero at MW-POLA-119 to a falling head value that is approximately twice the rising head value at MW-POLA-117A.

F.4.2 Well Recovery Test Results

Hydraulic conductivity estimates from well recovery tests are presented on Table F-1. The hydraulic conductivity for MW-POLA-117B is 2.2×10^{-5} cm/sec (6.2×10^{-2} ft/day) and for MW-POLA-120 is 5.8×10^{-5} cm/sec (1.6×10^{-1} ft/day). These hydraulic conductivity values are

higher than those determined by slug tests. This was anticipated as well recovery tests were not performed on wells with relatively low recharge during well development.

F.4.3 Hydraulic Gradients

Hydraulic gradients at the POL Outparcel range from 0.016 feet/feet (ft/ft) (between MW-POLA-119 and -118) to 0.16 ft/ft (between MW-POLA-121 and PL-MW-104). The highest gradients are limited to the radial area, west to northeast, within approximately 100 feet of the former AST-2 location. This steep gradient generally follows the surface topography. A narrow, steep band also appears to exist between PL-MW-106 and -112A. This narrow, steep band may be the effect of drainage through the artificial fill exceeding the drainage into the fill from the upgradient bedrock.

F.4.4 Estimate of Seepage Velocity

Seepage velocity is estimated from the following formula:

$$V_s = \frac{KI}{\eta_e}$$

Where:

V_s = seepage velocity (ft/day)

K = hydraulic conductivity (ft/day)

I = hydraulic gradient (ft/ft)

η_e = effective porosity

The effective porosity for the fractured, weathered sandstone bedrock is estimated at 10 percent ($\eta_e = 0.10$) (Freeze and Cherry, 1979).

The edge of the POL Outparcel petroleum hydrocarbon (Figures A-4 in Appendix A) lies near the PL-MW-104, where low-levels of total petroleum hydrocarbon were detected. From this point to the next downgradient monitoring well, PL-MW-106, the hydraulic gradient is 0.03 ft/ft (for both February and March 1997). The hydraulic conductivity at both wells is approximately

0.03 ft/day (ESI, 1993). Using 10 percent effective porosity, the seepage velocity is estimated as follows:

$$V_s = \frac{0.03 \text{ ft/day} \times 0.03 \text{ ft/ft}}{0.10} = 9.0 \times 10^{-3} \text{ ft/day}$$

The distance between PL-MW-104 and -106 is approximately 190 feet. Without consideration of retention factors, the travel time from PL-MW-104 to -106 is approximately 58 years.

Although this estimate may be typical for flow through the fracture, weathered bedrock, localized flow through individual fractures may result in isolated areas of relatively high hydraulic conductivity, and therefore, rapid seepage velocity.

**Table F-1. Hydraulic Conductivities from Aquifer Tests
Petroleum, Oil, and Lubricant Outparcel**

Well Number	HC ^a (cm/sec) ^b	HC (feet/day)	HC (cm/sec)	HC (feet/day)	HC (cm/sec)	HC (feet/day)
	Falling Head		Rising Head		Average	
MW-POLA-117A	1.2E-06	3.4E-03	3.1E-06	8.8E-03	2.2E-06	6.1E-03
MW-POLA-117B*	NC ^c	NC	2.2E-05	6.2E-02	2.2E-05	6.2E-02
MW-POLA-118	1.0E-05	2.8E-02	6.8E-06	1.9E-02	8.4E-06	2.4E-02
MW-POLA-119	2.3E-05	6.5E-02	2.3E-05	6.5E-02	2.3E-05	6.5E-02
MW-POLA-120*	NC	NC	5.8E-05	1.6E-01	5.8E-05	1.6E-01
MW-POLA-121	1.0E-06	2.8E-03	NC	NC	1.0E-06	2.8E-03
PL-MW-101	NC	NC	3.7E-06	1.0E-02	3.7E-06	1.0E-02
PL-MW-103	1.2E-04	3.4E-01	1.5E-03	4.3E+00	8.1E-04	2.3E+00
PL-MW-104	1.1E-05	3.1E-02	1.2E-05	3.4E-02	1.2E-05	3.3E-02
PL-MW-106	9.8E-06	2.8E-02	NC	NC	9.8E-06	2.8E-02
PL-MW-108	2.8E-03	7.9E+00	9.1E-04	2.6E+00	1.9E-03	5.3E+00
PL-MW-112B	1.7E-04	4.8E-01	3.4E-04	9.6E-01	2.6E-04	7.2E-01
PL-MW-113A	NC	NC	1.3E-05	3.7E-02	1.3E-05	3.7E-02
PL-MW-113C	4.9E-05	1.4E-01	4.6E-05	1.3E-01	4.8E-05	1.3E-01
LOG AVERAGE						7.3E-02

* Recovery Pump Test

All other wells - slug test

References:

Bower, H. and Rice, R.C., 1976, *A Slug Test for Determining Hydraulic Conductivity of Unconfined Aquifers with Completely or Partially Penetrating Wells*, Water Resources Research, Vol. 12, No. 3.

Jacob, C.E., 1963, *The Recovery Method for Determining the Coefficient Transmissivity*, U.S. Geologic Survey, Water Supply Paper 1536-I, Washington, D.C.

^a Hydraulic conductivity

^b Centimeters per second

^c Not conducted

Checked By: MWS 12-23-99
Approved By: MWS 12-23-99

Table F-1**POL Area**

Hydraulic Conductivity Estimates
Hamilton AAF POL CAP
IT Project No. 762538

Well Number	K (cm/sec)	K (ft/day)	K (cm/sec)	K (ft/day)	K (cm/sec)	K (ft/day)	Average
SLUG TESTS							
MW-POLA-117A	3.3E-06	9.4E-03	1.7E-06	4.7E-03	2.5E-06	7.1E-03	
MW-POLA-118	8.1E-06	2.3E-02	6.3E-06	1.8E-02	7.2E-06	2.1E-02	
MW-POLA-119	4.6E-05	1.3E-01	4.6E-05	1.3E-01	4.6E-05	1.3E-01	
MW-POLA-121	2.6E-07	7.4E-04			2.6E-07	7.4E-04	
PL-MW-101			3.7E-06	1.0E-02	3.7E-06	1.0E-02	
PL-MW-103	1.2E-04	3.4E-01	1.5E-03	4.3E+00	8.1E-04	2.3E+00	
PL-MW-104	1.1E-05	3.1E-02	1.2E-05	3.4E-02	1.2E-05	3.3E-02	
PL-MW-106	9.8E-06	2.8E-02			9.8E-06	2.8E-02	
PL-MW-108	2.8E-03	7.9E+00	9.1E-04	2.6E+00	1.9E-03	5.3E+00	
PL-MW-112B	1.7E-04	4.8E-01	3.4E-04	9.6E-01	2.6E-04	7.2E-01	
PL-MW-113A			1.3E-05	3.7E-02	1.3E-05	3.7E-02	
PL-MW-113C	4.9E-05	1.4E-01	4.6E-05	1.3E-01	4.8E-05	1.3E-01	
SPECIFIC CAPACITY TESTS							
MW-POLA-117B*			7.2E-05	2.0E-01	7.2E-05	2.0E-01	
MW-POLA-120*			1.0E-04	2.8E-01	1.0E-04	2.8E-01	
LOG AVERAGE					2.8E-05	7.8E-02	

* - Well Recovery Test; Theis & Jacob Recovery Method

All other wells - Slug Test; Bouwer & Rice Method

PL-MW ####: Data obtained from ESI (1993)

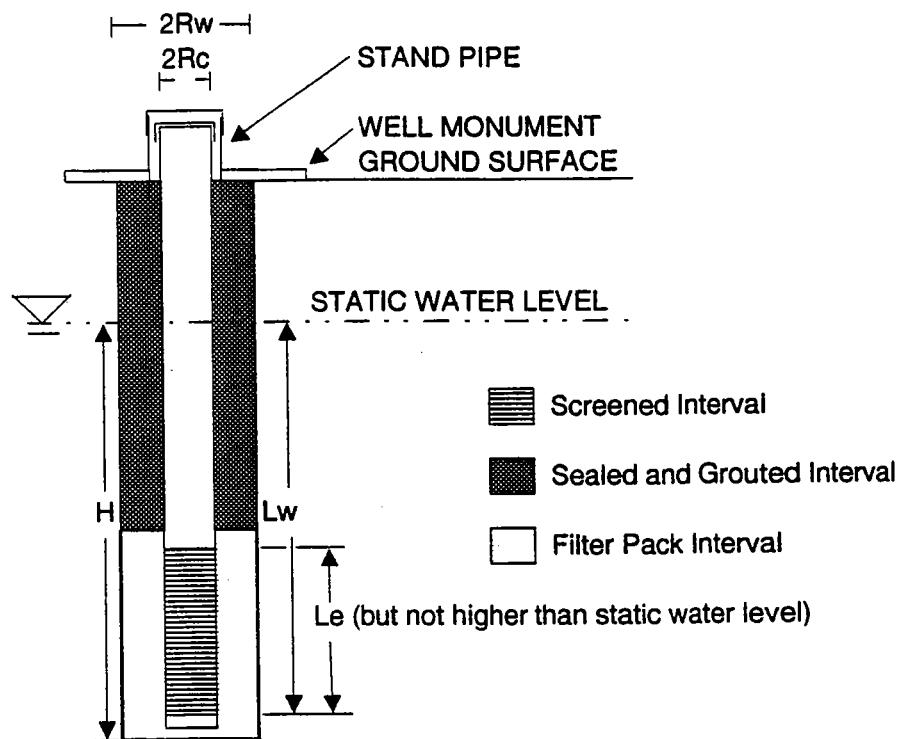
K - Hydraulic Conductivity

Checked By: Ofc 7-21-97Approved By: John 7/21/97

APPENDIX F1

SLUG TEST DATA FORMS AND ANALYSES

SLUG TEST CALCULATION FORM
PARAMETER DESCRIPTION DIAGRAM
Hamilton AAF POL CAP
Project No. 762538



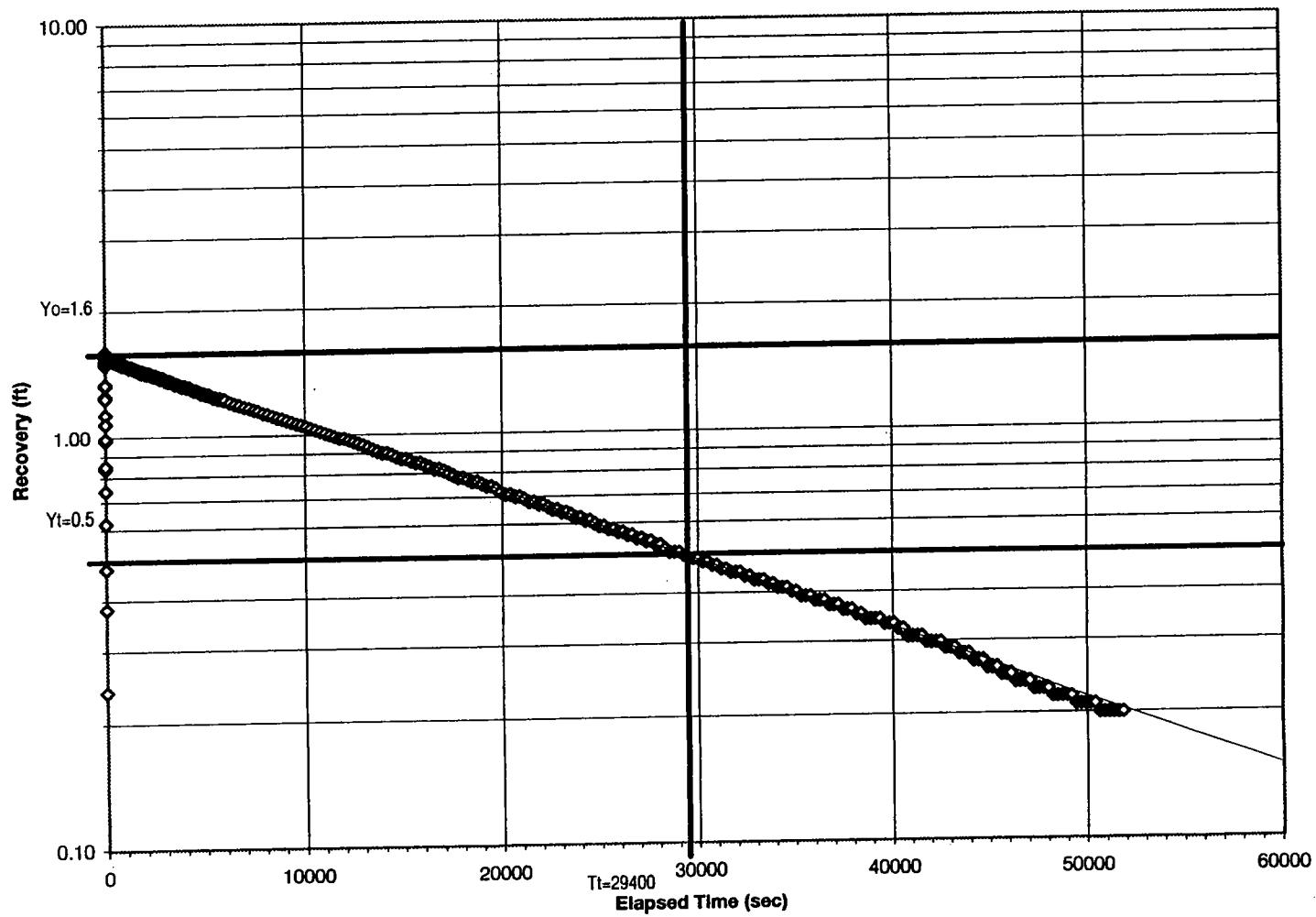
Checked By CFC 7-21-97
Approved By JES 7/21/97

SLUG TEST CALCULATION FORM
MW-POLA-117A Slug In
Hamilton AAF POL CAP
Project No. 762538

Measured Depth To Static Water (from data form)	5.97 ft
Outer Casing/Christy Box Elevation (from survey)	3.2 ft
Ground Elevation (from survey)	0 ft
Christy Box (enter "0") or Stand Pipe (enter "1")	1
Depth to Static Water from Ground Surface	2.77 ft
Depth To Top Of Screen Interval (from well comp. form)	5 ft
Depth To Bottom Of Screen Interval (from well comp. form)	15 ft
Depth To Bottom Of Filter Pack (from well comp. form)	17.6 ft
H (Aquifer Thickness - based on bottom of filter pack)	14.83 ft
Lw (Saturated Height above Bottom of Screen)	12.23 ft
Le (Saturated Height of Screen)	10 ft
Rw (Radius of Well Borehole)	0.4 ft
Rc (Radius of Well Casing)	0.156 ft
Le/Rw (for determining parameters A and B)	25
A (Bouwer and Rice, 1989) IF H>Lw	2.3
B (Bouwer and Rice, 1989) IF H>Lw	0.4
Yo (Drawdown @ Time 0 - from drawdown curve)	1.6 ft
Yt (Drawdown @ Time t - from drawdown curve)	0.5 ft
t (Time - from drawdown curve)	29400 sec
Hydraulic Conductivity - K	9.38E-03 ft/day
Transmissivity - T	9.38E-02 sqft/day

Checked By CFC 7-21-97
Approved By JHR 7-21-97

SLUG TEST FLOW TEST CHART
MW-POLA-T17A Slug In
Hamilton AAF POL CAP
Project No. 762538



Checked By CFC 7-21-97
Approved By JFR 7-21-97

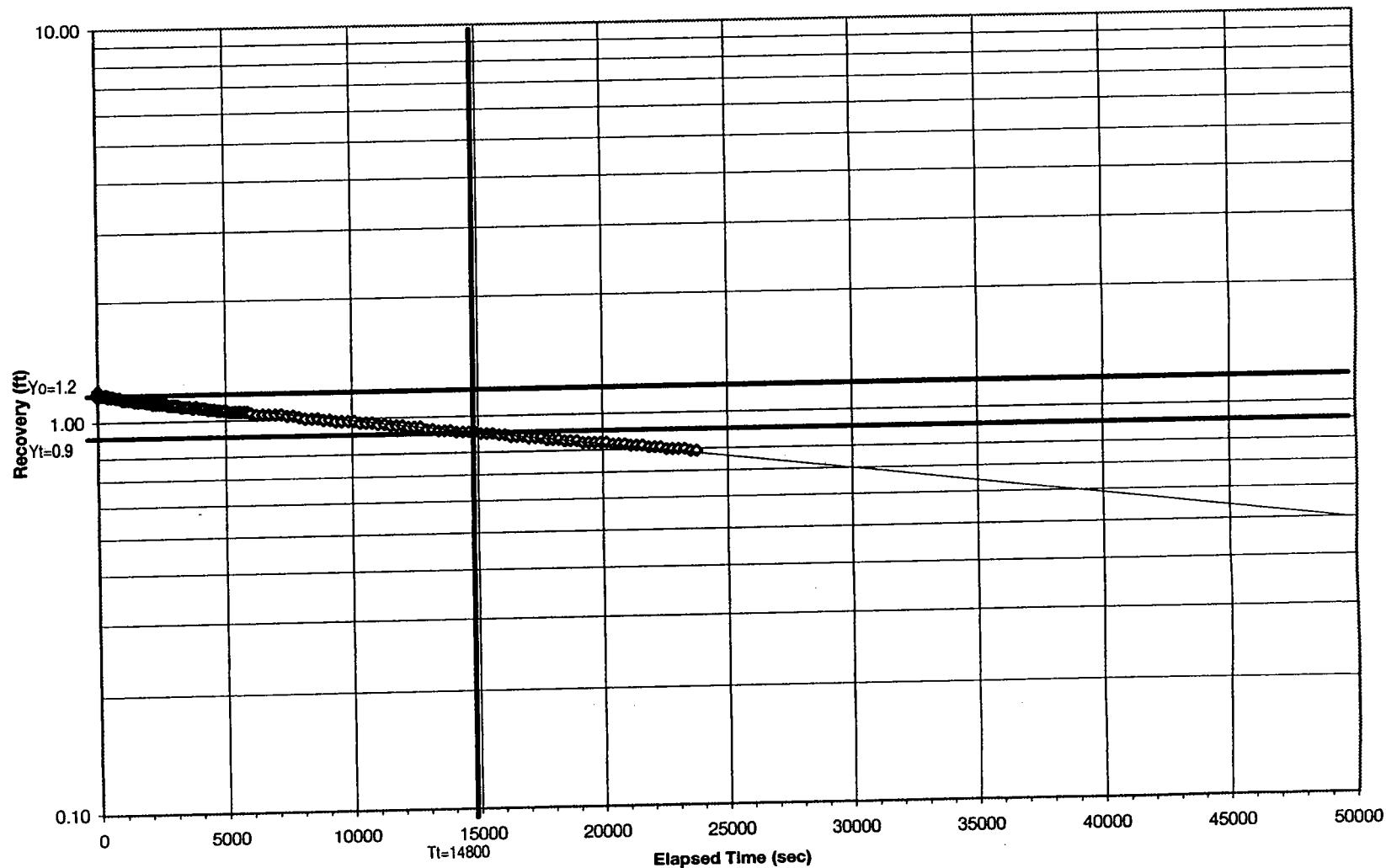
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SLUG TEST CALCULATION FORM
MW-POLA-117A Slug Out
Hamilton AAF POL CAP
Project No. 762538

Measured Depth To Static Water (from data form)	5.36 ft
Outer Casing/Christy Box Elevation (from survey)	3.2 ft
Ground Elevation (from survey)	0 ft
Christy Box (enter "0") or Stand Pipe (enter "1")	1
Depth to Static Water from Ground Surface	2.16 ft
Depth To Top Of Screen Interval (from well comp. form)	5 ft
Depth To Bottom Of Screen Interval (from well comp. form)	15 ft
Depth To Bottom Of Filter Pack (from well comp. form)	17.6 ft
H (Aquifer Thickness - based on bottom of filter pack)	15.44 ft
Lw (Saturated Height above Bottom of Screen)	12.84 ft
Le (Saturated Height of Screen)	10 ft
Rw (Radius of Well Borehole)	0.4 ft
Rc (Radius of Well Casing)	0.156 ft
Le/Rw (for determining parameters A and B)	25
A (Bouwer and Rice, 1989) IF H>Lw	2.3
B (Bouwer and Rice, 1989) IF H>Lw	0.4
Yo (Drawdown @ Time 0 - from drawdown curve)	1.2 ft
Yt (Drawdown @ Time t - from drawdown curve)	0.9 ft
t (Time - from drawdown curve)	14800 sec
Hydraulic Conductivity - K	4.65E-03 ft/day
Transmissivity - T	4.65E-02 sqft/day

Checked By CFC 7-21-97
Approved By JMR 7-21-97

SLUG TEST RECOVERY CHART
MW-POLA-117A Slug Out
Hamilton AAF POL CAP
Project No. 762538



Checked By RFL 7-21-97
Approved By JR 7-21-97

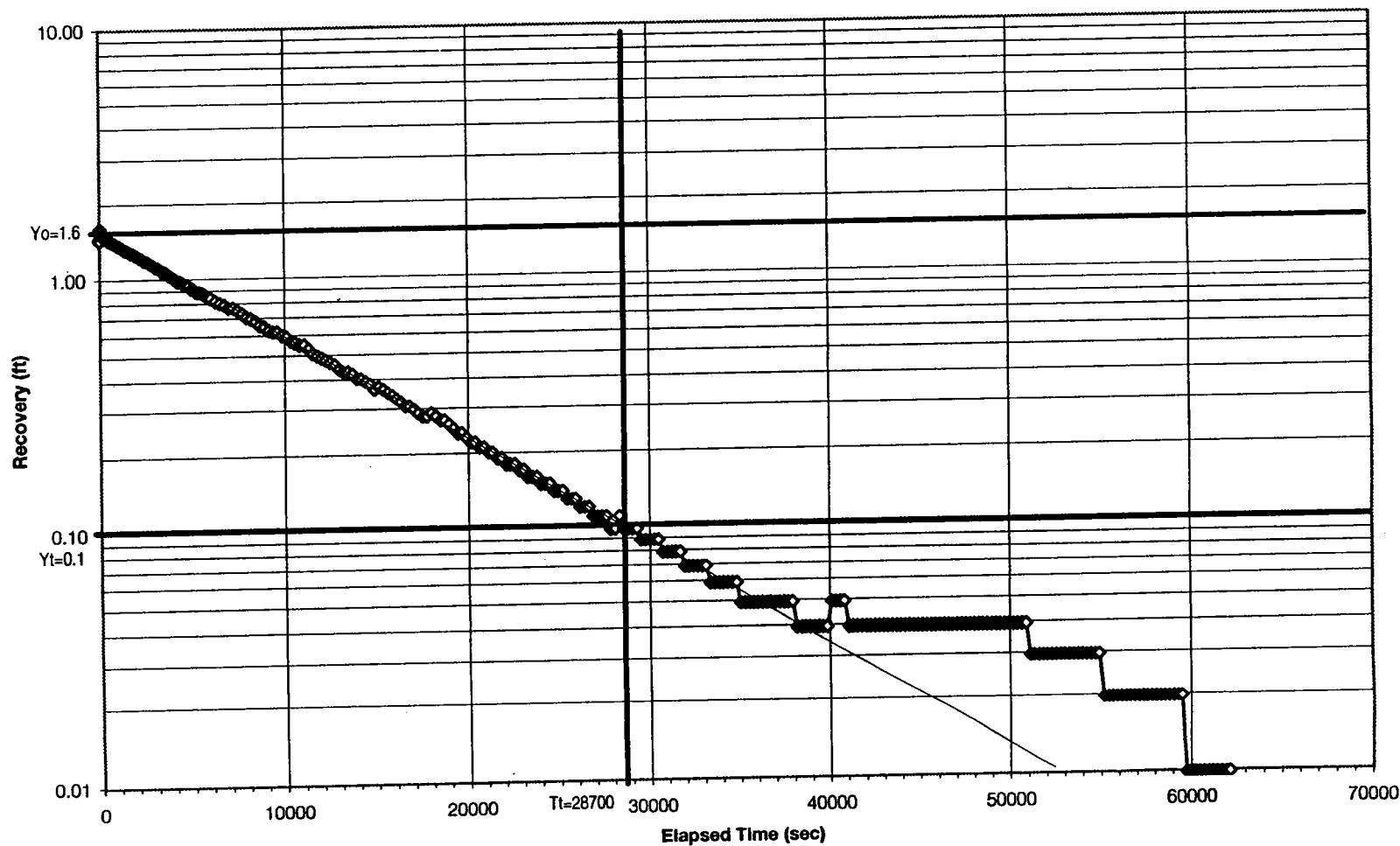
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SLUG TEST CALCULATION FORM
MW-POLA-118 Slug In
Hamilton AAF POL CAP
Project No. 762538

Measured Depth To Static Water (from data form)	6.45 ft
Outer Casing/Christy Box Elevation (from survey)	2.1 ft
Ground Elevation (from survey)	0 ft
Christy Box (enter "0") or Stand Pipe (enter "1")	1
Depth to Static Water from Ground Surface	4.35 ft
Depth To Top Of Screen Interval (from well comp. form)	5 ft
Depth To Bottom Of Screen Interval (from well comp. form)	15 ft
Depth To Bottom Of Filter Pack (from well comp. form)	16.4 ft
H (Aquifer Thickness - based on bottom of filter pack)	12.05 ft
Lw (Saturated Height above Bottom of Screen)	10.65 ft
Le (Saturated Height of Screen)	10 ft
Rw (Radius of Well Borehole)	0.4 ft
Rc (Radius of Well Casing)	0.156 ft
Le/Rw (for determining parameters A and B)	25
A (Bouwer and Rice, 1989) IF H>Lw	2.3
B (Bouwer and Rice, 1989) IF H>Lw	0.4
Yo (Drawdown @ Time 0 - from drawdown curve)	1.6 ft
Yt (Drawdown @ Time t - from drawdown curve)	0.1 ft
t (Time - from drawdown curve)	28700 sec
Hydraulic Conductivity - K	2.27E-02 ft/day
Transmissivity - T	2.27E-01 sqft/day

Checked By CSC 7-21-97
Approved By JFR 7-21-97

SLUG TEST RECOVERY CHART
MW-POLA-118 Slug In
Hamilton AAF POL CAP
Project No. 762538



Checked By CFC 7-24-97
Approved By JHR 7-21-97

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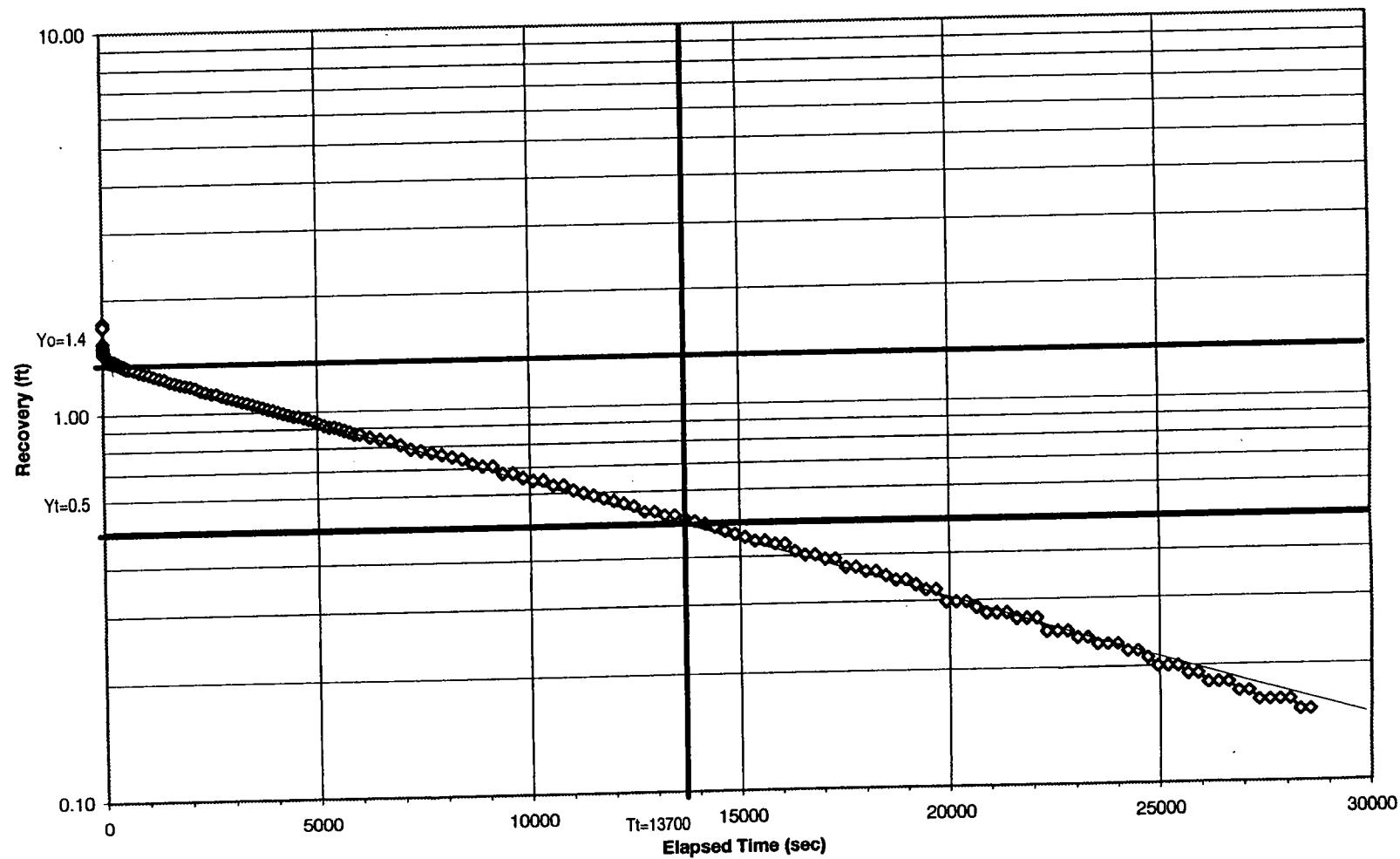
SLUG TEST CALCULATION FORM
MW-POLA-118 Slug Out
Hamilton AAF POL CAP
Project No. 762538

Measured Depth To Static Water (from data form)	6.35 ft
Outer Casing/Christy Box Elevation (from survey)	2.1 ft
Ground Elevation (from survey)	0 ft
Christy Box (enter "0") or Stand Pipe (enter "1")	1
Depth to Static Water from Ground Surface	4.25 ft
Depth To Top Of Screen Interval (from well comp. form)	5 ft
Depth To Bottom Of Screen Interval (from well comp. form)	15 ft
Depth To Bottom Of Filter Pack (from well comp. form)	16.4 ft
H (Aquifer Thickness - based on bottom of filter pack)	12.15 ft
Lw (Saturated Height above Bottom of Screen)	10.75 ft
Le (Saturated Height of Screen)	10 ft
Rw (Radius of Well Borehole)	0.4 ft
Rc (Radius of Well Casing)	0.156 ft
Le/Rw (for determining parameters A and B)	25
A (Bouwer and Rice, 1989) IF H>Lw	2.3
B (Bouwer and Rice, 1989) IF H>Lw	0.4
Yo (Drawdown @ Time 0 - from drawdown curve)	1.4 ft
Yt (Drawdown @ Time t - from drawdown curve)	0.5 ft
t (Time - from drawdown curve)	13700 sec
Hydraulic Conductivity - K	1.77E-02 ft/day
Transmissivity - T	1.77E-01 sqft/day

Checked By CFC 7-21-97
Approved By JFK 7-21-97

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SLUG TEST RECOVERY CHART
MW-POLA-118 Slug Out
Hamilton AAF POL CAP
Project No. 762538



Checked By Cfc 7-21-97
Approved By JBR 7-21-97

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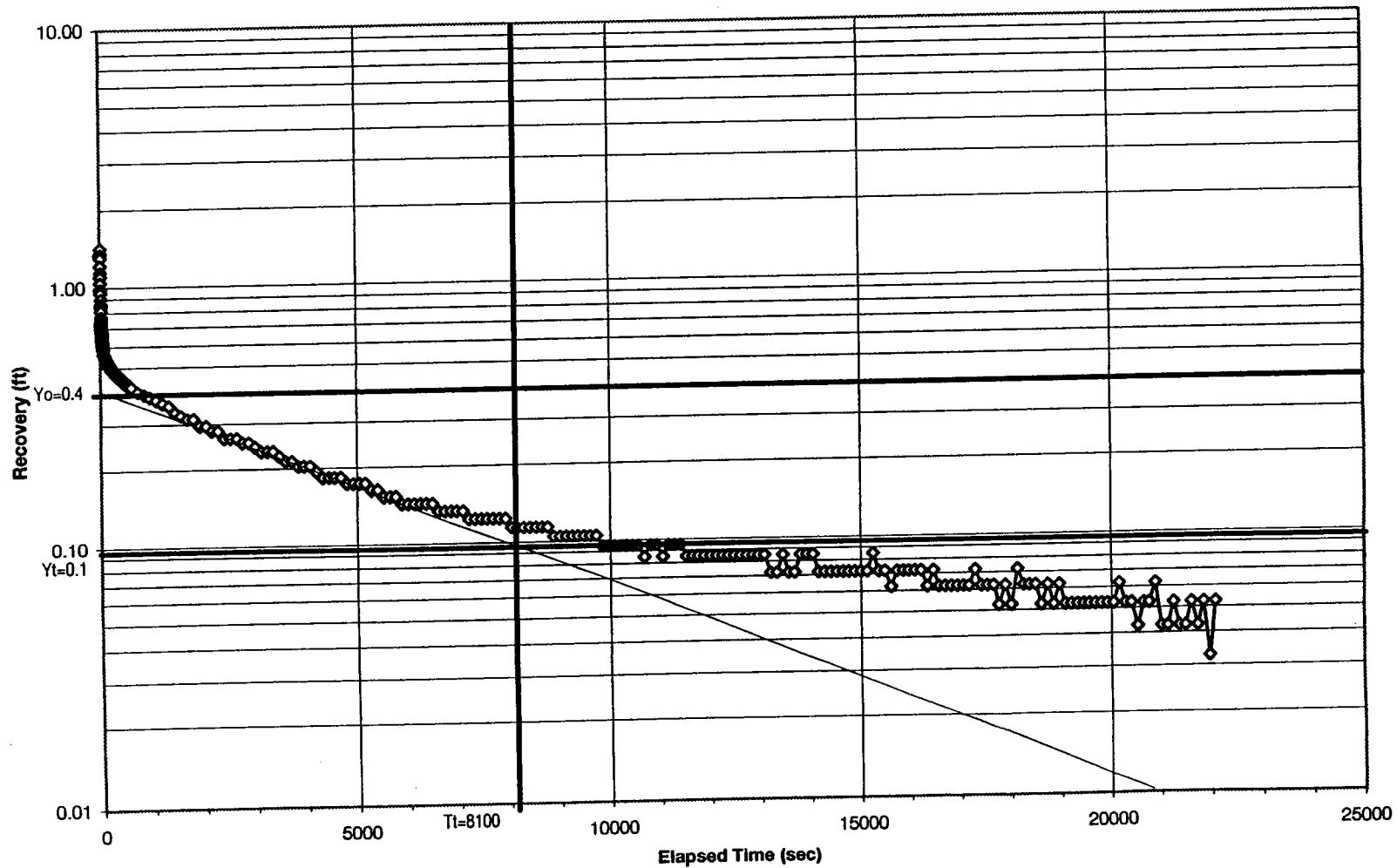
SLUG TEST CALCULATION FORM
MW-POLA-119 Slug In
Hamilton AAF POL CAP
Project No. 762538

Measured Depth To Static Water (from data form)	9.83 ft
Outer Casing/Christy Box Elevation (from survey)	2.2 ft
Ground Elevation (from survey)	0 ft
Christy Box (enter "0") or Stand Pipe (enter "1")	1
Depth to Static Water from Ground Surface	7.63 ft
Depth To Top Of Screen Interval (from well comp. form)	4.4 ft
Depth To Bottom Of Screen Interval (from well comp. form)	14.4 ft
Depth To Bottom Of Filter Pack (from well comp. form)	17 ft
H (Aquifer Thickness - based on bottom of filter pack)	9.37 ft
Lw (Saturated Height above Bottom of Screen)	6.77 ft
Le (Saturated Height of Screen)	6.77 ft
Rw (Radius of Well Borehole)	0.5 ft
Rc (Radius of Well Casing)	0.268 ft
Le/Rw (for determining parameters A and B)	13.54
A (Bouwer and Rice, 1989) IF H>Lw	2
B (Bouwer and Rice, 1989) IF H>Lw	0.3
Yo (Drawdown @ Time 0 - from drawdown curve)	0.4 ft
Yt (Drawdown @ Time t - from drawdown curve)	0.1 ft
t (Time - from drawdown curve)	8100 sec
Hydraulic Conductivity - K	1.29E-01 ft/day
Transmissivity - T	8.76E-01 sqft/day

Checked By CFC 7-21-97
Approved By JBR 7-21-97

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SLUG TEST RECOVERY CHART
MW-POLA-119 Slug In
Hamilton AAF POL CAP
Project No. 762538



Checked By CFC 7-21-97
Approved By JPR 7-21-97

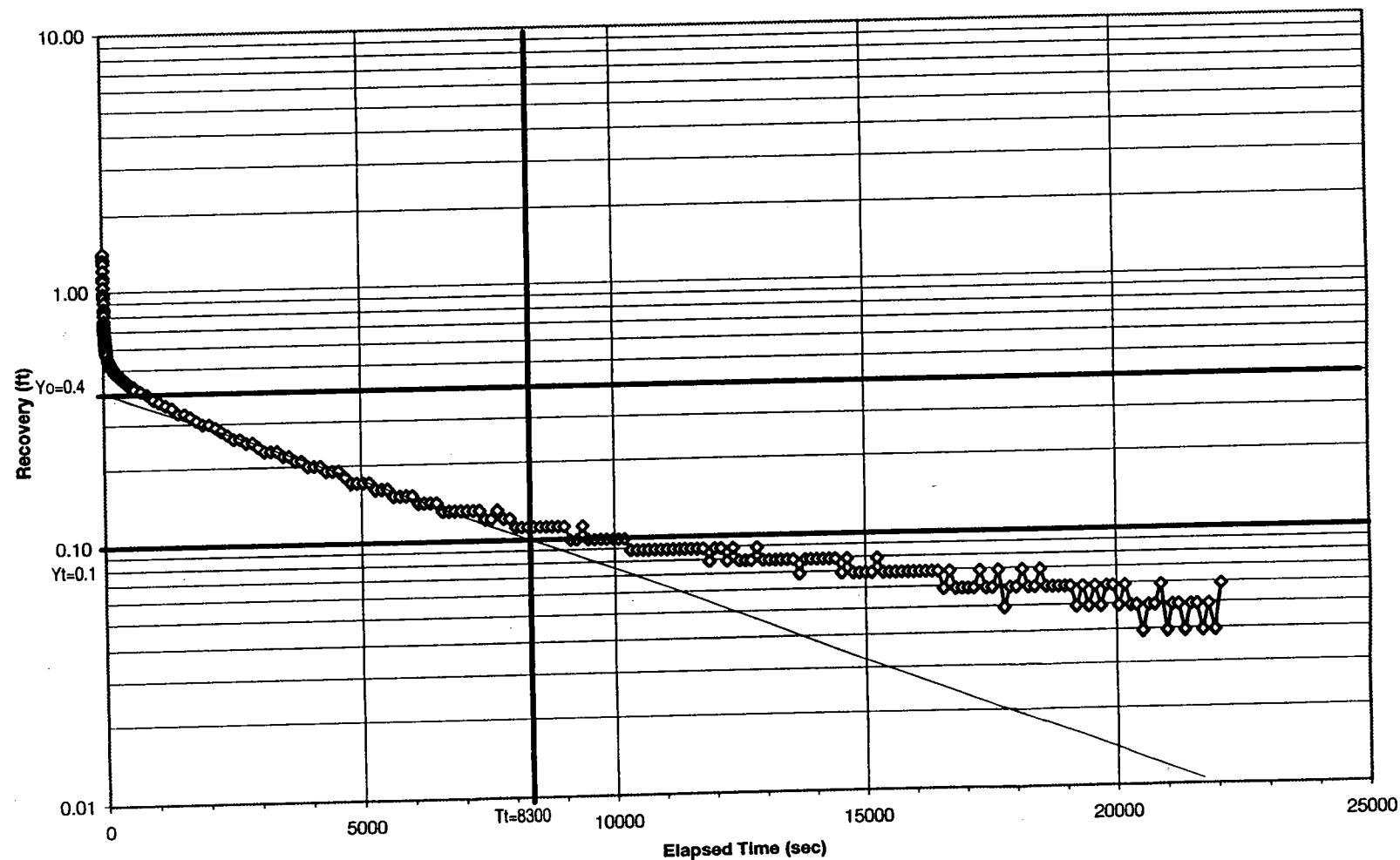
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SLUG TEST CALCULATION FORM
MW-POLA-119 Slug Out
Hamilton AAF POL CAP
Project No. 762538

Measured Depth To Static Water (from data form)	9.83 ft
Outer Casing/Christy Box Elevation (from survey)	2.2 ft
Ground Elevation (from survey)	0 ft
Christy Box (enter "0") or Stand Pipe (enter "1")	1
Depth to Static Water from Ground Surface	7.63 ft
Depth To Top Of Screen Interval (from well comp. form)	4.4 ft
Depth To Bottom Of Screen Interval (from well comp. form)	14.4 ft
Depth To Bottom Of Filter Pack (from well comp. form)	17 ft
H (Aquifer Thickness - based on bottom of filter pack)	9.37 ft
Lw (Saturated Height above Bottom of Screen)	6.77 ft
Le (Saturated Height of Screen)	6.77 ft
Rw (Radius of Well Borehole)	0.5 ft
Rc (Radius of Well Casing)	0.268 ft
Le/Rw (for determining parameters A and B)	13.54
A (Bouwer and Rice, 1989) IF H>Lw	2
B (Bouwer and Rice, 1989) IF H>Lw	0.3
Yo (Drawdown @ Time 0 - from drawdown curve)	0.4 ft
Yt (Drawdown @ Time t - from drawdown curve)	0.1 ft
t (Time - from drawdown curve)	8300 sec
Hydraulic Conductivity - K	1.26E-01 ft/day
Transmissivity - T	8.55E-01 sqft/day

Checked By CFC 7-21-97
Approved By JHR 7-21-97

SLUG TEST RECOVERY CHART
MW-POLA-119 Slug Out
Hamilton AAF POL CAP
Project No. 762538



Checked By Cfc 7-21-97
Approved By pdc 7-21-97

12:37 PM 7/10/97 119-out.xls

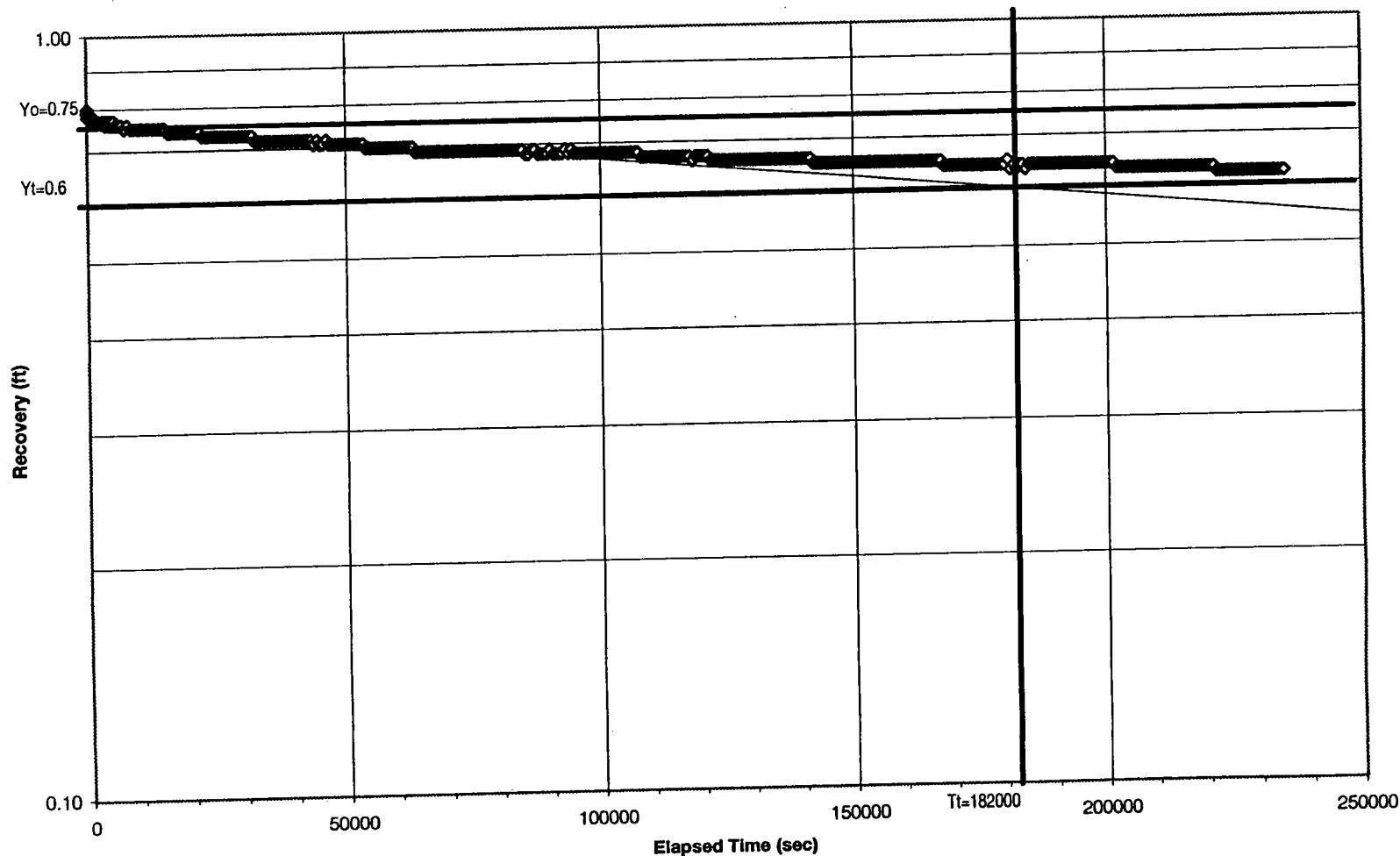
SLUG TEST CALCULATION FORM
MW-POLA-121 Slug In
Hamilton AAF POL CAP
Project No. 762538

Measured Depth To Static Water (from data form)	21.22 ft
Outer Casing/Christy Box Elevation (from survey)	2.4 ft
Ground Elevation (from survey)	0 ft
Christy Box (enter "0") or Stand Pipe (enter "1")	1
Depth to Static Water from Ground Surface	18.82 ft
Depth To Top Of Screen Interval (from well comp. form)	7 ft
Depth To Bottom Of Screen Interval (from well comp. form)	32 ft
Depth To Bottom Of Filter Pack (from well comp. form)	33.6 ft
H (Aquifer Thickness - based on bottom of filter pack)	14.78 ft
Lw (Saturated Height above Bottom of Screen)	13.18 ft
Le (Saturated Height of Screen)	13.18 ft
Rw (Radius of Well Borehole)	0.36 ft
Rc (Radius of Well Casing)	0.268 ft
Le/Rw (for determining parameters A and B)	36.61111
A (Bouwer and Rice, 1989) IF H>Lw	2.6
B (Bouwer and Rice, 1989) IF H>Lw	0.4
Yo (Drawdown @ Time 0 - from drawdown curve)	0.75 ft
Yt (Drawdown @ Time t - from drawdown curve)	0.6 ft
t (Time - from drawdown curve)	182000 sec
Hydraulic Conductivity - K	7.35E-04 ft/day
Transmissivity - T	9.68E-03 sqft/day

Checked By CFC 7-21-97
Approved By JAD 7-21-97

12:59 PM 7/10/97 121-IN.FRM

SLUG TEST RECOVERY CHART
MW-POLA-121 Slug In
Hamilton AAF POL CAP
Project No. 762538



Checked By CFC 7-21-97
Approved By JW 7-21-97

12:48 PM 7/10/97 121-in.xls

APPENDIX F2

WELL RECOVERY TEST FORMS AND ANALYSES

Waterloo Hydrogeologic
180 Columbia St. W.
Waterloo, Ontario, Canada
ph.(519)746-1798

Pumping test analysis
Recovery method after
THEIS & JACOB
Unconfined aquifer

Page 1

Project: Hamilton BRAC

Evaluated by: P.L. Date: 5/9/97

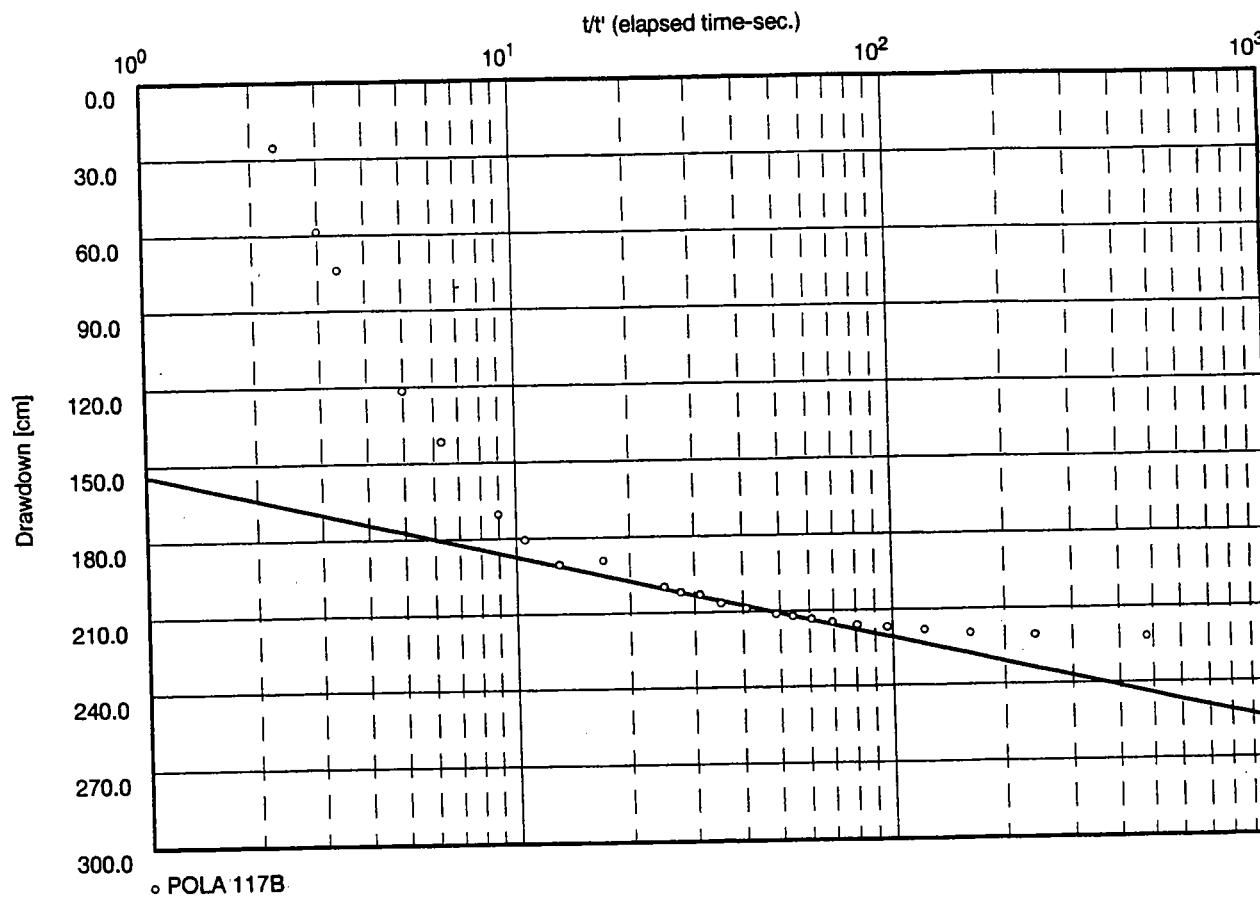
Pumping Test No. 1

Test conducted on: 4/4/97

MW-POLA-117B

Discharge 0.19 U.S.gal/min

Pumping test duration: 14400 s



Transmissivity [cm²/s]: 6.54×10^{-2}

Hydraulic conductivity [cm/s]: 7.15×10^{-5}

Aquifer thickness [cm]: 914.4

Waterloo Hydrogeologic
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Pumping test analysis
Recovery method after
THEIS & JACOB
Unconfined aquifer

Page 1

Project: Hamilton BRAC

Evaluated by: P.L.

Date: 5/9/97

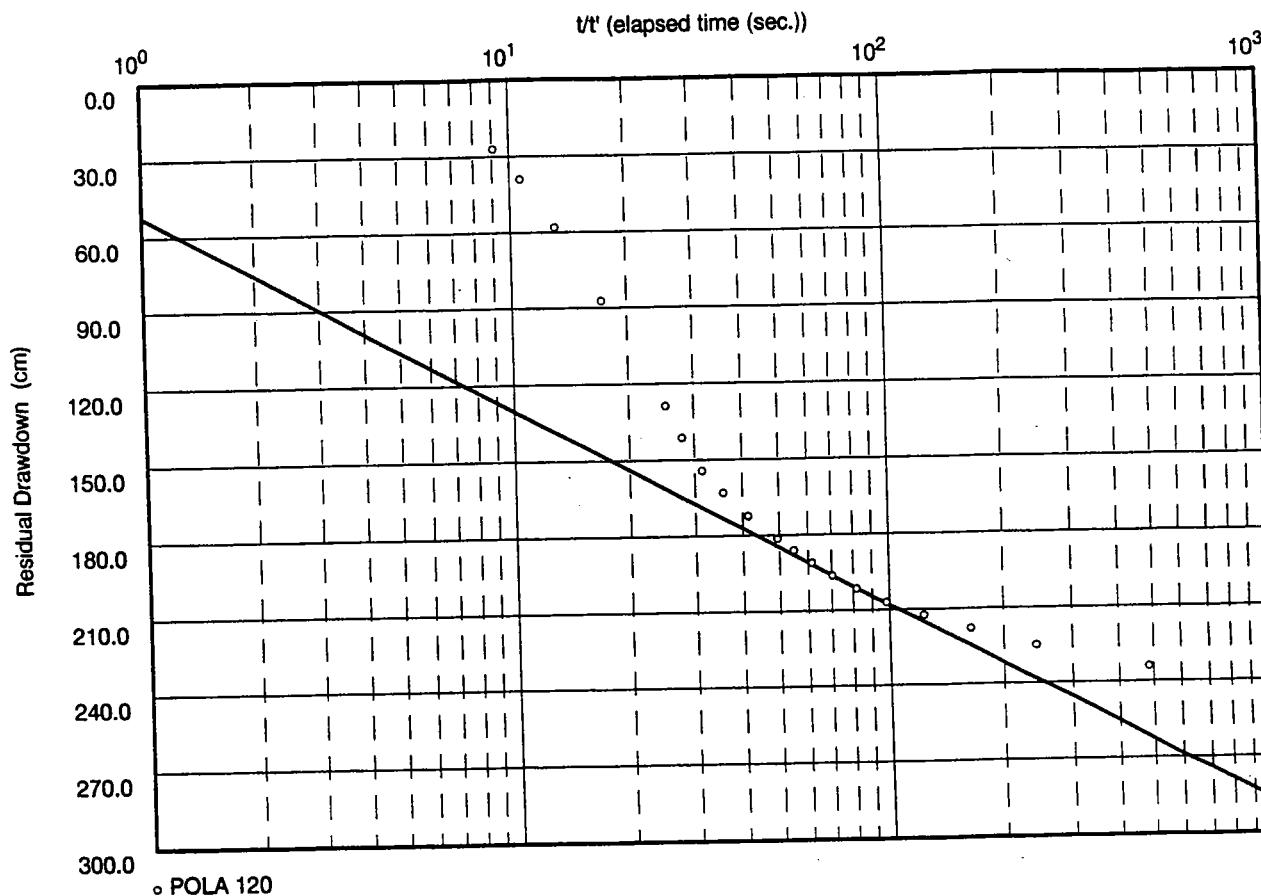
Pumping Test No. 1

Test conducted on: 4/2/97

MW-POLA-120

Discharge 0.63 U.S.gal/min

Pumping test duration: 14580 s



Transmissivity [cm²/s]: 9.33×10^{-2}

Hydraulic conductivity [cm/s]: 1.02×10^{-4}

Aquifer thickness [cm]: 914.4

Modeling Data

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180 Columbia St. W.
Waterloo, Ontario, Canada
ph.(519)746-1798

slug/bail test analysis
BOUWER-RICE's method

Page 1

Project: Hamilton BRAC

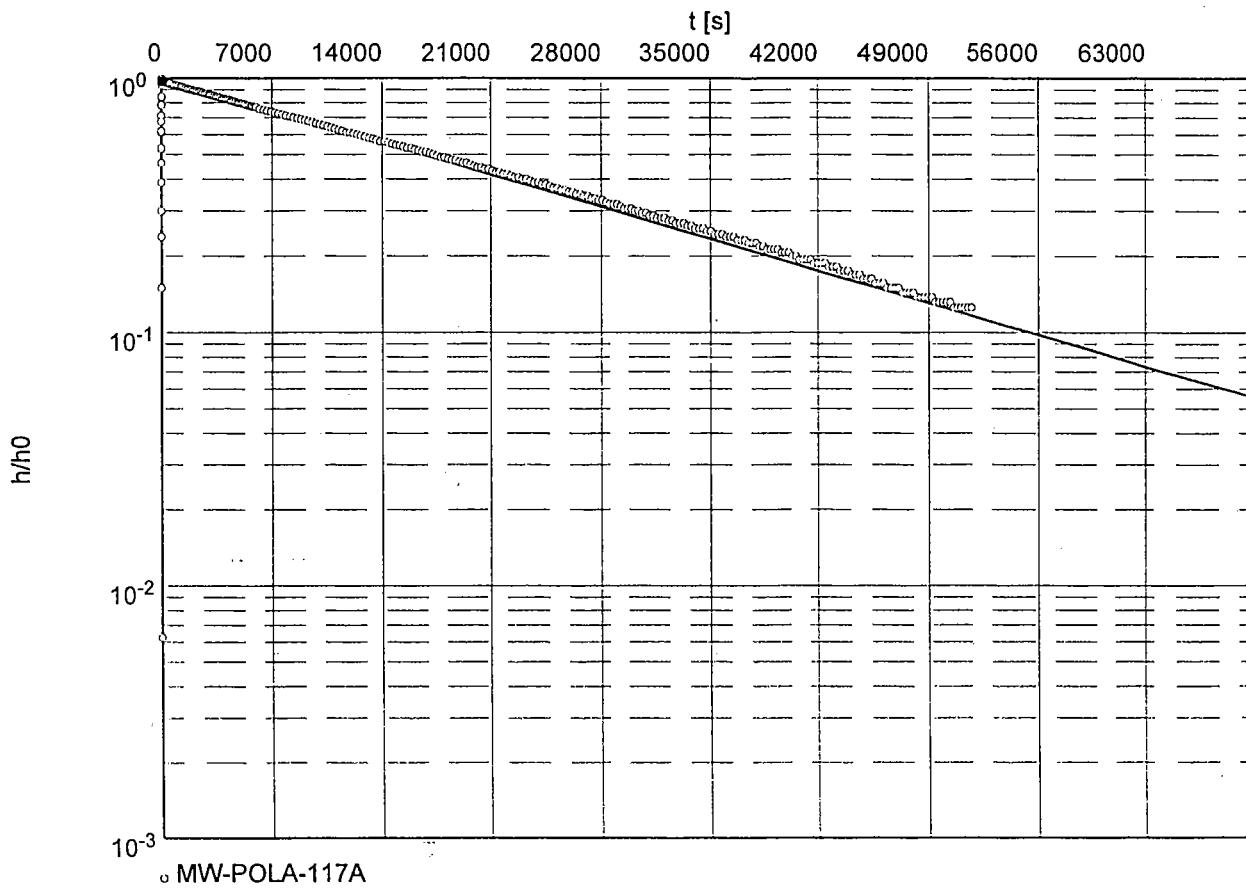
Evaluated by:

Date: 5.15.1997

Slug Test No. 1

Test conducted on: 5/7-5/8/97

MW-POLA-117A



Hydraulic conductivity [cm/s]: 4.69×10^{-6}

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slug/bail test analysis
 BOUWER-RICE's method

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Project: Hamilton BRAC

Evaluated by: Date: 5.15.1997

Slug Test No. 1

Test conducted on: 5/7-5/8/97

MW-POLA-117A

MW-POLA-117A

Static water level: 0.0 cm below datum

	Pumping test duration [s]	Water level [cm]	Drawdown [cm]
1	0	48.8	48.8
2	1	0.0	0.0
3	1	0.0	0.0
4	2	0.3	0.3
5	2	0.0	0.0
6	3	0.0	0.0
7	4	7.3	7.3
8	4	11.6	11.6
9	5	14.6	14.6
10	5	18.9	18.9
11	6	22.6	22.6
12	7	25.6	25.6
13	7	25.9	25.9
14	8	29.9	29.9
15	8	34.7	34.7
16	9	30.2	30.2
17	10	32.9	32.9
18	10	38.4	38.4
19	11	38.1	38.1
20	11	40.8	40.8
21	12	41.1	41.1
22	13	46.0	46.0
23	13	45.7	45.7
24	14	46.6	46.6
25	14	47.5	47.5
26	15	48.2	48.2
27	16	48.2	48.2
28	16	48.2	48.2
29	17	47.5	47.5
30	17	47.9	47.9
31	18	47.9	47.9
32	19	47.5	47.5
33	19	47.9	47.9
34	20	46.9	46.9
35	21	47.5	47.5
36	22	48.2	48.2
37	23	47.9	47.9
38	24	48.2	48.2
39	25	47.5	47.5
40	26	47.9	47.9
41	27	47.5	47.5
42	28	47.5	47.5
43	29	47.5	47.5
44	30	47.5	47.5
45	31	47.5	47.5
46	32	47.5	47.5
47	33	47.5	47.5
48	34	47.5	47.5
49	35	47.5	47.5
50	36	47.5	47.5

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slug/bail test analysis
BOUWER-RICE's method

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Project: Hamilton BRAC

Evaluated by:

Date: 5.15.1997

Slug Test No. 1

Test conducted on: 5/7-5/8/97

MW-POLA-117A

MW-POLA-117A

Static water level: 0.0 cm below datum

	Pumping test duration [s]	Water level [cm]	Drawdown [cm]
51	37	47.5	47.5
52	38	47.5	47.5
53	39	47.5	47.5
54	40	47.5	47.5
55	41	47.5	47.5
56	42	47.5	47.5
57	43	47.5	47.5
58	44	47.5	47.5
59	45	47.5	47.5
60	46	47.5	47.5
61	47	47.5	47.5
62	48	47.5	47.5
63	49	47.5	47.5
64	50	47.5	47.5
65	51	47.5	47.5
66	52	47.5	47.5
67	53	47.5	47.5
68	54	47.5	47.5
69	55	47.5	47.5
70	56	47.5	47.5
71	57	47.5	47.5
72	58	47.5	47.5
73	59	47.5	47.5
74	60	47.5	47.5
75	72	47.2	47.2
76	84	47.5	47.5
77	96	47.5	47.5
78	108	47.5	47.5
79	120	47.5	47.5
80	132	47.5	47.5
81	144	47.9	47.9
82	156	47.5	47.5
83	168	47.5	47.5
84	180	47.5	47.5
85	192	47.5	47.5
86	204	47.5	47.5
87	216	47.2	47.2
88	228	47.2	47.2
89	240	47.2	47.2
90	252	47.2	47.2
91	264	47.2	47.2
92	276	47.2	47.2
93	288	47.2	47.2
94	300	47.2	47.2
95	312	46.9	46.9
96	324	46.9	46.9
97	336	46.9	46.9
98	348	46.9	46.9
99	360	46.9	46.9
100	372	46.9	46.9

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slug/bail test analysis
BOUWER-RICE's method

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Project: Hamilton BRAC

Evaluated by: Date: 5.15.1997

Slug Test No. 1

Test conducted on: 5/7-5/8/97

MW-POLA-117A

MW-POLA-117A

Static water level: 0.0 cm below datum

	Pumping test duration [s]	Water level [cm]	Drawdown [cm]
101	384	46.9	46.9
102	396	46.9	46.9
103	408	46.9	46.9
104	420	46.6	46.6
105	432	46.6	46.6
106	444	46.6	46.6
107	456	46.6	46.6
108	468	46.6	46.6
109	480	46.6	46.6
110	492	46.6	46.6
111	504	46.6	46.6
112	516	46.6	46.6
113	528	46.6	46.6
114	540	46.6	46.6
115	552	46.6	46.6
116	564	46.6	46.6
117	576	46.3	46.3
118	588	46.3	46.3
119	600	46.3	46.3
120	720	46.0	46.0
121	840	45.7	45.7
122	960	45.7	45.7
123	1080	45.4	45.4
124	1200	45.1	45.1
125	1320	45.1	45.1
126	1440	44.8	44.8
127	1560	44.5	44.5
128	1680	44.2	44.2
129	1800	43.9	43.9
130	1920	43.9	43.9
131	2040	43.6	43.6
132	2160	43.6	43.6
133	2280	43.3	43.3
134	2400	43.0	43.0
135	2520	43.0	43.0
136	2640	42.7	42.7
137	2760	42.4	42.4
138	2880	42.4	42.4
139	3000	42.1	42.1
140	3120	41.8	41.8
141	3240	41.8	41.8
142	3360	41.5	41.5
143	3480	41.1	41.1
144	3600	41.1	41.1
145	3720	40.8	40.8
146	3840	40.5	40.5
147	3960	40.5	40.5
148	4080	40.2	40.2
149	4200	40.2	40.2
150	4320	39.9	39.9

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slug/bail test analysis
BOUWER-RICE's method

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Project: Hamilton BRAC

Evaluated by:

Date: 5.15.1997

Slug Test No. 1

Test conducted on: 5/7-5/8/97

MW-POLA-117A

MW-POLA-117A

Static water level: 0.0 cm below datum

	Pumping test duration [s]	Water level [cm]	Drawdown [cm]
151	4440	39.6	39.6
152	4560	39.6	39.6
153	4680	39.3	39.3
154	4800	39.0	39.0
155	4920	39.0	39.0
156	5040	38.7	38.7
157	5160	38.7	38.7
158	5280	38.4	38.4
159	5400	38.1	38.1
160	5520	38.1	38.1
161	5640	37.8	37.8
162	5760	37.8	37.8
163	5880	37.5	37.5
164	6000	37.5	37.5
165	6240	36.9	36.9
166	6480	36.6	36.6
167	6720	36.3	36.3
168	6960	36.0	36.0
169	7200	35.7	35.7
170	7440	35.4	35.4
171	7680	35.1	35.1
172	7920	34.7	34.7
173	8160	34.4	34.4
174	8400	34.1	34.1
175	8640	33.8	33.8
176	8880	33.5	33.5
177	9120	33.2	33.2
178	9360	32.9	32.9
179	9600	32.6	32.6
180	9840	32.3	32.3
181	10080	32.0	32.0
182	10320	31.7	31.7
183	10560	31.4	31.4
184	10800	31.1	31.1
185	11040	30.8	30.8
186	11280	30.5	30.5
187	11520	30.2	30.2
188	11760	29.9	29.9
189	12000	29.9	29.9
190	12240	29.6	29.6
191	12480	29.3	29.3
192	12720	29.0	29.0
193	12960	28.7	28.7
194	13200	28.3	28.3
195	13440	28.0	28.0
196	13680	27.7	27.7
197	13920	27.4	27.4
198	14160	27.4	27.4
199	14400	27.1	27.1
200	14640	26.8	26.8

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slug/bail test analysis
 BOUWER-RICE's method

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Project: Hamilton BRAC

Evaluated by: Date: 5.15.1997

Slug Test No. 1

Test conducted on: 5/7-5/8/97

MW-POLA-117A

MW-POLA-117A

Static water level: 0.0 cm below datum

	Pumping test duration [s]	Water level [cm]	Drawdown [cm]	
201	14880	26.5	26.5	
202	15120	26.5	26.5	
203	15360	26.2	26.2	
204	15600	25.9	25.9	
205	15840	25.9	25.9	
206	16080	25.6	25.6	
207	16320	25.3	25.3	
208	16560	25.0	25.0	
209	16800	25.0	25.0	
210	17040	24.7	24.7	
211	17280	24.4	24.4	
212	17520	24.1	24.1	
213	17760	23.8	23.8	
214	18000	23.8	23.8	
215	18240	23.5	23.5	
216	18480	23.2	23.2	
217	18720	23.2	23.2	
218	18960	22.9	22.9	
219	19200	22.6	22.6	
220	19440	22.6	22.6	
221	19680	22.3	22.3	
222	19920	21.9	21.9	
223	20160	21.6	21.6	
224	20400	21.6	21.6	
225	20640	21.3	21.3	
226	20880	21.3	21.3	
227	21120	21.0	21.0	
228	21360	20.7	20.7	
229	21600	20.7	20.7	
230	21840	20.4	20.4	
231	22080	20.4	20.4	
232	22320	20.1	20.1	
233	22560	19.8	19.8	
234	22800	19.8	19.8	
235	23040	19.5	19.5	
236	23280	19.5	19.5	
237	23520	19.2	19.2	
238	23760	18.9	18.9	
239	24000	18.9	18.9	
240	24240	18.6	18.6	
241	24480	18.6	18.6	
242	24720	18.3	18.3	
243	24960	18.0	18.0	
244	25200	18.0	18.0	
245	25440	17.7	17.7	
246	25680	17.7	17.7	
247	25920	17.4	17.4	
248	26160	17.4	17.4	
249	26400	17.1	17.1	
250	26640	17.1	17.1	

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slug/bail test analysis
BOUWER-RICE's method

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Project: Hamilton BRAC

Evaluated by: Date: 5.15.1997

Slug Test No. 1

Test conducted on: 5/7-5/8/97

MW-POLA-117A

MW-POLA-117A

Static water level: 0.0 cm below datum

	Pumping test duration [s]	Water level [cm]	Drawdown [cm]	
251	26880	16.8	16.8	
252	27120	16.8	16.8	
253	27360	16.5	16.5	
254	27600	16.5	16.5	
255	27840	16.2	16.2	
256	28080	16.2	16.2	
257	28320	15.8	15.8	
258	28560	15.5	15.5	
259	28800	15.5	15.5	
260	29040	15.5	15.5	
261	29280	15.2	15.2	
262	29520	14.9	14.9	
263	29760	14.9	14.9	
264	30000	14.9	14.9	
265	30240	14.6	14.6	
266	30480	14.6	14.6	
267	30720	14.3	14.3	
268	30960	14.3	14.3	
269	31200	14.0	14.0	
270	31440	14.0	14.0	
271	31680	13.7	13.7	
272	31920	13.7	13.7	
273	32160	13.7	13.7	
274	32400	13.4	13.4	
275	32640	13.4	13.4	
276	32880	13.1	13.1	
277	33120	13.1	13.1	
278	33360	13.1	13.1	
279	33600	12.8	12.8	
280	33840	12.8	12.8	
281	34080	12.5	12.5	
282	34320	12.5	12.5	
283	34560	12.5	12.5	
284	34800	12.2	12.2	
285	35040	12.2	12.2	
286	35280	11.9	11.9	
287	35520	11.9	11.9	
288	35760	11.9	11.9	
289	36000	11.6	11.6	
290	36240	11.6	11.6	
291	36480	11.6	11.6	
292	36720	11.3	11.3	
293	36960	11.3	11.3	
294	37200	11.3	11.3	
295	37440	11.0	11.0	
296	37680	11.0	11.0	
297	37920	11.0	11.0	
298	38160	10.7	10.7	
299	38400	10.7	10.7	
300	38640	10.4	10.4	

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slug/bail test analysis
BOUWER-RICE's method

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Project: Hamilton BRAC

Evaluated by: Date: 5.15.1997

Slug Test No. 1

Test conducted on: 5/7-5/8/97

MW-POLA-117A

MW-POLA-117A

Static water level: 0.0 cm below datum

	Pumping test duration [s]	Water level [cm]	Drawdown [cm]	
301	38880	10.4	10.4	
302	39120	10.4	10.4	
303	39360	10.4	10.4	
304	39600	10.1	10.1	
305	39840	10.1	10.1	
306	40080	10.1	10.1	
307	40320	9.8	9.8	
308	40560	9.8	9.8	
309	40800	9.4	9.4	
310	41040	9.4	9.4	
311	41280	9.4	9.4	
312	41520	9.4	9.4	
313	41760	9.1	9.1	
314	42000	9.1	9.1	
315	42240	9.1	9.1	
316	42480	9.1	9.1	
317	42720	8.8	8.8	
318	42960	8.8	8.8	
319	43200	8.8	8.8	
320	43440	8.5	8.5	
321	43680	8.5	8.5	
322	43920	8.5	8.5	
323	44160	8.2	8.2	
324	44400	8.2	8.2	
325	44640	8.2	8.2	
326	44880	7.9	7.9	
327	45120	7.9	7.9	
328	45360	7.9	7.9	
329	45600	7.6	7.6	
330	45840	7.6	7.6	
331	46080	7.6	7.6	
332	46320	7.3	7.3	
333	46560	7.3	7.3	
334	46800	7.3	7.3	
335	47040	7.3	7.3	
336	47280	7.0	7.0	
337	47520	7.0	7.0	
338	47760	7.0	7.0	
339	48000	7.0	7.0	
340	48240	6.7	6.7	
341	48480	6.7	6.7	
342	48720	6.7	6.7	
343	48960	6.7	6.7	
344	49200	6.7	6.7	
345	49440	6.4	6.4	
346	49680	6.4	6.4	
347	49920	6.4	6.4	
348	50160	6.4	6.4	
349	50400	6.4	6.4	
350	50640	6.1	6.1	

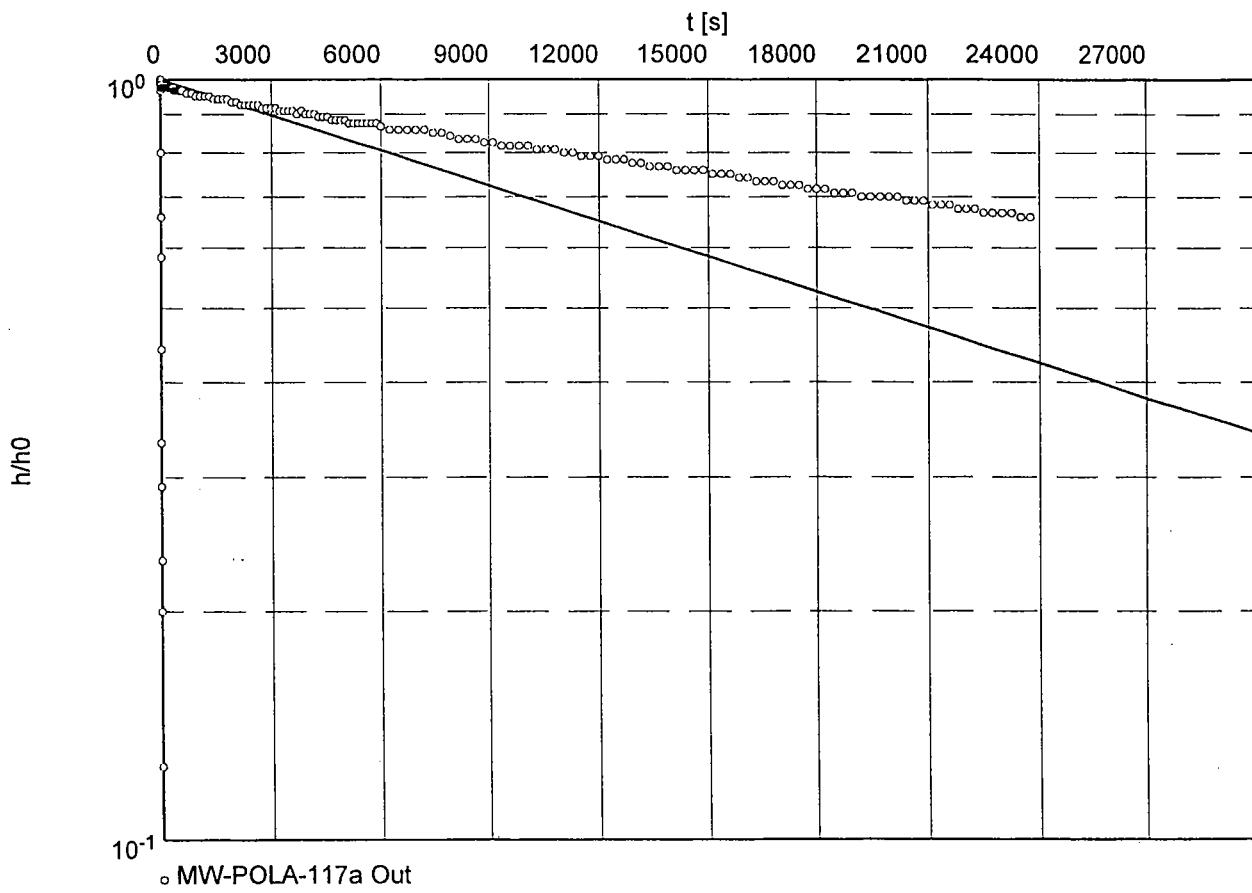
Waterloo Hydrogeologic 180 Columbia St. W. Waterloo, Ontario, Canada ph.(519)746-1798	slug/bail test analysis BOUWER-RICE's method	Page 9		
		Project: Hamilton BRAC		
		Evaluated by:	Date: 5.15.1997	
Slug Test No. 1		Test conducted on: 5/7-5/8/97		
MW-POLA-117A		MW-POLA-117A		

Static water level: 0.0 cm below datum

Slug Test No. SLUG OUT

Test conducted on: 4/3/97

MW-POLA-117A

Hydraulic conductivity [cm/s]: 4.04×10^{-6}

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slug/bail test analysis
HVORSLEV's method

Page 1

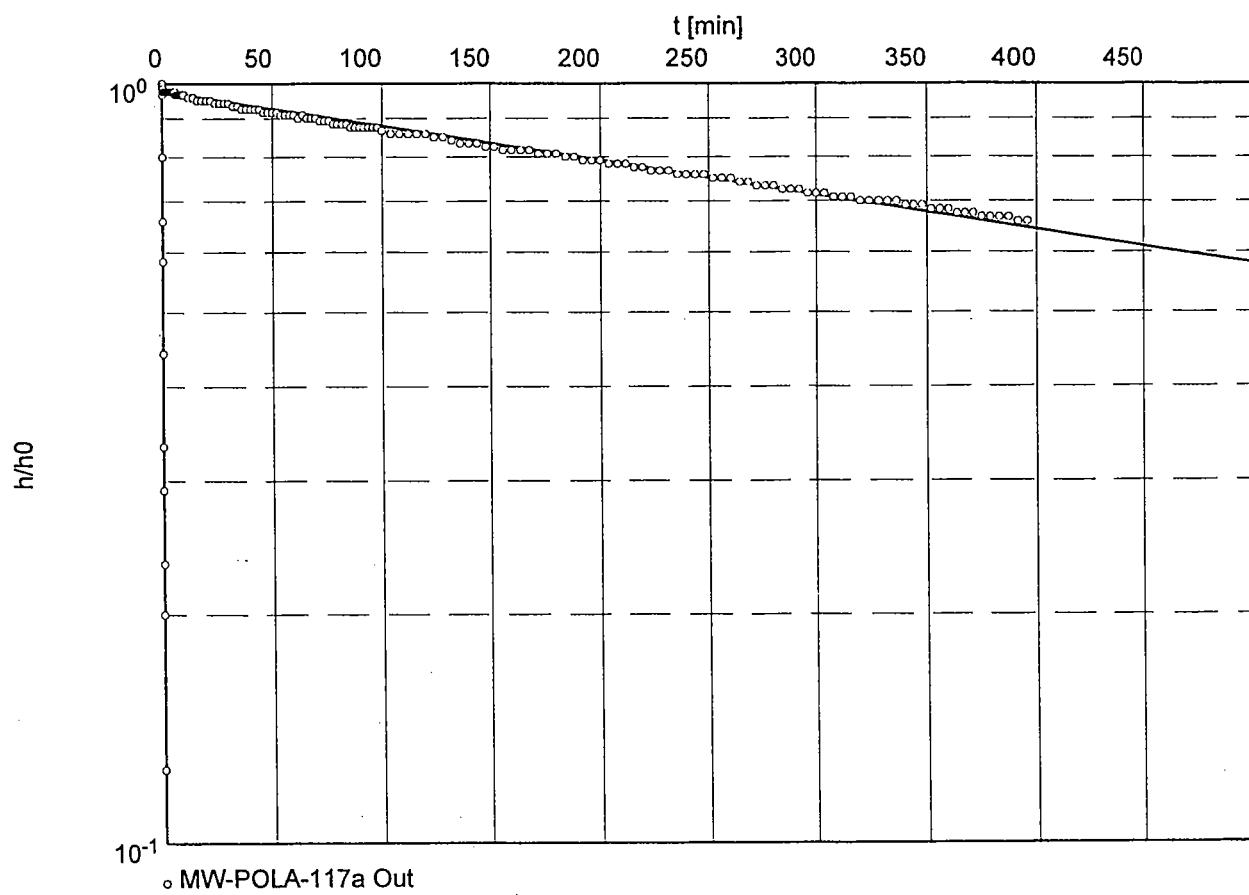
Project:

Evaluated by:

Date: 11.05.1997

Slug Test No.

Test conducted on:



Hydraulic conductivity [ft/min]: 3.87×10^{-6}

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slug/bail test analysis
 HVORSLEV's method

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Project:

Evaluated by: Date: 11.05.1997

Slug Test No.

Test conducted on:

MW-POLA-117a Out

Static water level: 0.00 ft below datum

	Pumping test duration [min]	Water level [ft]	Change in Waterlevel [ft]
1	0.00	1.20	1.20
2	0.01	-0.40	-0.40
3	0.02	-0.40	-0.40
4	0.03	-0.40	-0.40
5	0.04	-0.35	-0.35
6	0.05	0.00	0.00
7	0.06	-0.15	-0.15
8	0.07	0.24	0.24
9	0.08	0.28	0.28
10	0.09	0.53	0.53
11	0.10	0.70	0.70
12	0.11	0.79	0.79
13	0.12	0.96	0.96
14	0.13	1.16	1.16
15	0.14	1.21	1.21
16	0.15	1.20	1.20
17	0.16	1.19	1.19
18	0.17	1.18	1.18
19	0.18	1.18	1.18
20	0.19	1.18	1.18
21	0.20	1.18	1.18
22	0.21	1.18	1.18
23	0.22	1.18	1.18
24	0.23	1.18	1.18
25	0.24	1.18	1.18
26	0.25	1.18	1.18
27	0.26	1.18	1.18
28	0.27	1.18	1.18
29	0.28	1.18	1.18
30	0.29	1.18	1.18
31	0.30	1.18	1.18
32	0.31	1.18	1.18
33	0.32	1.18	1.18
34	0.33	1.18	1.18
35	0.35	1.18	1.18
36	0.37	1.18	1.18
37	0.38	1.18	1.18
38	0.40	1.18	1.18
39	0.42	1.18	1.18
40	0.43	1.18	1.18
41	0.45	1.18	1.18
42	0.47	1.18	1.18
43	0.48	1.17	1.17
44	0.50	1.17	1.17
45	0.52	1.17	1.17
46	0.53	1.17	1.17
47	0.55	1.17	1.17
48	0.57	1.17	1.17
49	0.58	1.17	1.17
50	0.60	1.17	1.17

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slug/bail test analysis
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Project:

Evaluated by:

Date: 11.05.1997

Slug Test No.

Test conducted on:

MW-POLA-117a Out

Static water level: 0.00 ft below datum

	Pumping test duration [min]	Water level [ft]	Change in Waterlevel [ft]	
51	0.62	1.17	1.17	
52	0.63	1.17	1.17	
53	0.65	1.17	1.17	
54	0.67	1.17	1.17	
55	0.68	1.17	1.17	
56	0.70	1.17	1.17	
57	0.72	1.17	1.17	
58	0.73	1.17	1.17	
59	0.75	1.17	1.17	
60	0.77	1.17	1.17	
61	0.78	1.17	1.17	
62	0.80	1.17	1.17	
63	0.82	1.17	1.17	
64	0.83	1.17	1.17	
65	0.85	1.17	1.17	
66	0.87	1.17	1.17	
67	0.88	1.17	1.17	
68	0.90	1.17	1.17	
69	0.92	1.17	1.17	
70	0.93	1.17	1.17	
71	0.95	1.17	1.17	
72	0.97	1.17	1.17	
73	0.98	1.17	1.17	
74	1.00	1.17	1.17	
75	1.20	1.17	1.17	
76	1.40	1.17	1.17	
77	1.60	1.17	1.17	
78	1.80	1.17	1.17	
79	2.00	1.17	1.17	
80	2.20	1.17	1.17	
81	2.40	1.17	1.17	
82	2.60	1.17	1.17	
83	2.80	1.17	1.17	
84	3.00	1.17	1.17	
85	3.20	1.17	1.17	
86	3.40	1.17	1.17	
87	3.60	1.17	1.17	
88	3.80	1.17	1.17	
89	4.00	1.17	1.17	
90	4.20	1.17	1.17	
91	4.40	1.17	1.17	
92	4.60	1.17	1.17	
93	4.80	1.17	1.17	
94	5.00	1.17	1.17	
95	5.20	1.17	1.17	
96	5.40	1.17	1.17	
97	5.60	1.17	1.17	
98	5.80	1.17	1.17	
99	6.00	1.17	1.17	
100	6.20	1.16	1.16	

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Project:

Evaluated by:

Date: 11.05.1997

Slug Test No.

Test conducted on:

MW-POLA-117a Out

Static water level: 0.00 ft below datum

	Pumping test duration [min]	Water level [ft]	Change in Waterlevel [ft]	
101	6.40	1.16	1.16	
102	6.60	1.16	1.16	
103	6.80	1.16	1.16	
104	7.00	1.16	1.16	
105	7.20	1.16	1.16	
106	7.40	1.16	1.16	
107	7.60	1.16	1.16	
108	7.80	1.16	1.16	
109	8.00	1.16	1.16	
110	8.20	1.16	1.16	
111	8.40	1.16	1.16	
112	8.60	1.16	1.16	
113	8.80	1.16	1.16	
114	9.00	1.16	1.16	
115	9.20	1.16	1.16	
116	9.40	1.16	1.16	
117	9.60	1.16	1.16	
118	9.80	1.16	1.16	
119	10.00	1.16	1.16	
120	12.00	1.15	1.15	
121	14.00	1.15	1.15	
122	16.00	1.14	1.14	
123	18.00	1.14	1.14	
124	20.00	1.14	1.14	
125	22.00	1.14	1.14	
126	24.00	1.13	1.13	
127	26.00	1.13	1.13	
128	28.00	1.13	1.13	
129	30.00	1.13	1.13	
130	32.00	1.12	1.12	
131	34.00	1.12	1.12	
132	36.00	1.11	1.11	
133	38.00	1.11	1.11	
134	40.00	1.11	1.11	
135	42.00	1.11	1.11	
136	44.00	1.11	1.11	
137	46.00	1.10	1.10	
138	48.00	1.10	1.10	
139	50.00	1.10	1.10	
140	52.00	1.10	1.10	
141	54.00	1.09	1.09	
142	56.00	1.09	1.09	
143	58.00	1.09	1.09	
144	60.00	1.09	1.09	
145	62.00	1.08	1.08	
146	64.00	1.09	1.09	
147	66.00	1.08	1.08	
148	68.00	1.08	1.08	
149	70.00	1.08	1.08	
150	72.00	1.07	1.07	

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Project:

Evaluated by:

Date: 11.05.1997

Slug Test No.

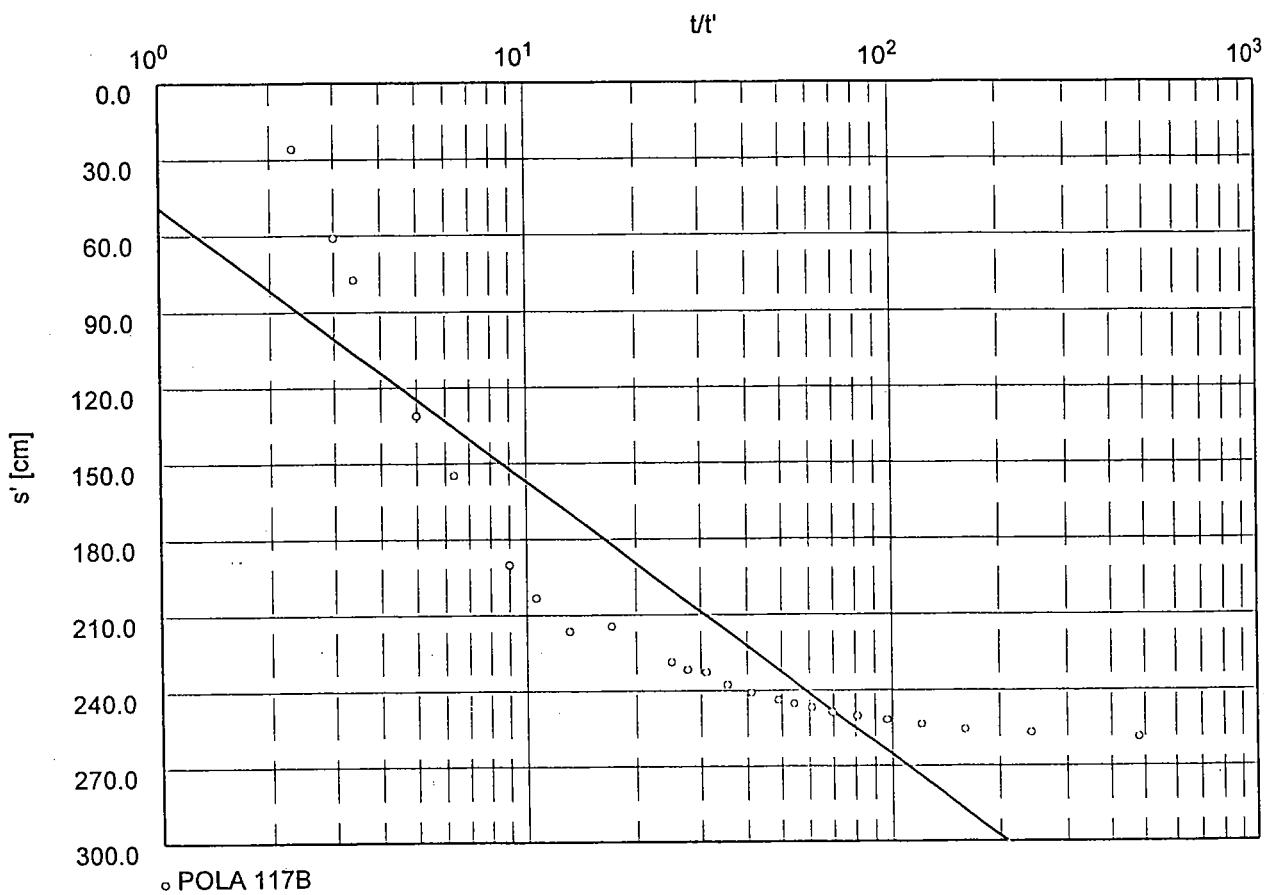
Test conducted on:

MW-POLA-117a Out

Static water level: 0.00 ft below datum

	Pumping test duration [min]	Water level [ft]	Change in Waterlevel [ft]	
151	74.00	1.07	1.07	
152	76.00	1.07	1.07	
153	78.00	1.06	1.06	
154	80.00	1.06	1.06	
155	82.00	1.06	1.06	
156	84.00	1.06	1.06	
157	86.00	1.05	1.05	
158	88.00	1.05	1.05	
159	90.00	1.05	1.05	
160	92.00	1.05	1.05	
161	94.00	1.05	1.05	
162	96.00	1.05	1.05	
163	98.00	1.05	1.05	
164	100.00	1.04	1.04	
165	104.00	1.03	1.03	
166	108.00	1.03	1.03	
167	112.00	1.03	1.03	
168	116.00	1.03	1.03	
169	120.00	1.03	1.03	
170	124.00	1.02	1.02	
171	128.00	1.02	1.02	
172	132.00	1.01	1.01	
173	136.00	1.00	1.00	
174	140.00	1.00	1.00	
175	144.00	1.00	1.00	
176	148.00	0.99	0.99	
177	152.00	0.99	0.99	
178	156.00	0.98	0.98	
179	160.00	0.98	0.98	
180	164.00	0.98	0.98	
181	168.00	0.98	0.98	
182	172.00	0.97	0.97	
183	176.00	0.97	0.97	
184	180.00	0.97	0.97	
185	184.00	0.96	0.96	
186	188.00	0.96	0.96	
187	192.00	0.95	0.95	
188	196.00	0.95	0.95	
189	200.00	0.95	0.95	
190	204.00	0.94	0.94	
191	208.00	0.94	0.94	
192	212.00	0.94	0.94	
193	216.00	0.93	0.93	
194	220.00	0.93	0.93	
195	224.00	0.92	0.92	
196	228.00	0.92	0.92	
197	232.00	0.92	0.92	
198	236.00	0.91	0.91	
199	240.00	0.91	0.91	
200	244.00	0.91	0.91	

	Pumping test analysis Recovery method after THEIS & JACOB Confined aquifer	Page 1
	Project: Hamilton BRAC	
	Evaluated by: P.L. Date: 5/9/97	
Pumping Test No. 1	Test conducted on: 4/4/97	
MW-POLA-117B		
Discharge 0.19 U.S.gal/min		
	Pumping test duration: 14400 s	



Transmissivity [cm^2/s]: 2.02×10^{-2}

Hydraulic conductivity [cm/s]: 2.21×10^{-5}

Aquifer thickness [cm]: 914.4

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Pumping test analysis
Recovery method after
THEIS & JACOB
Confined aquifer

Page 1

Project:

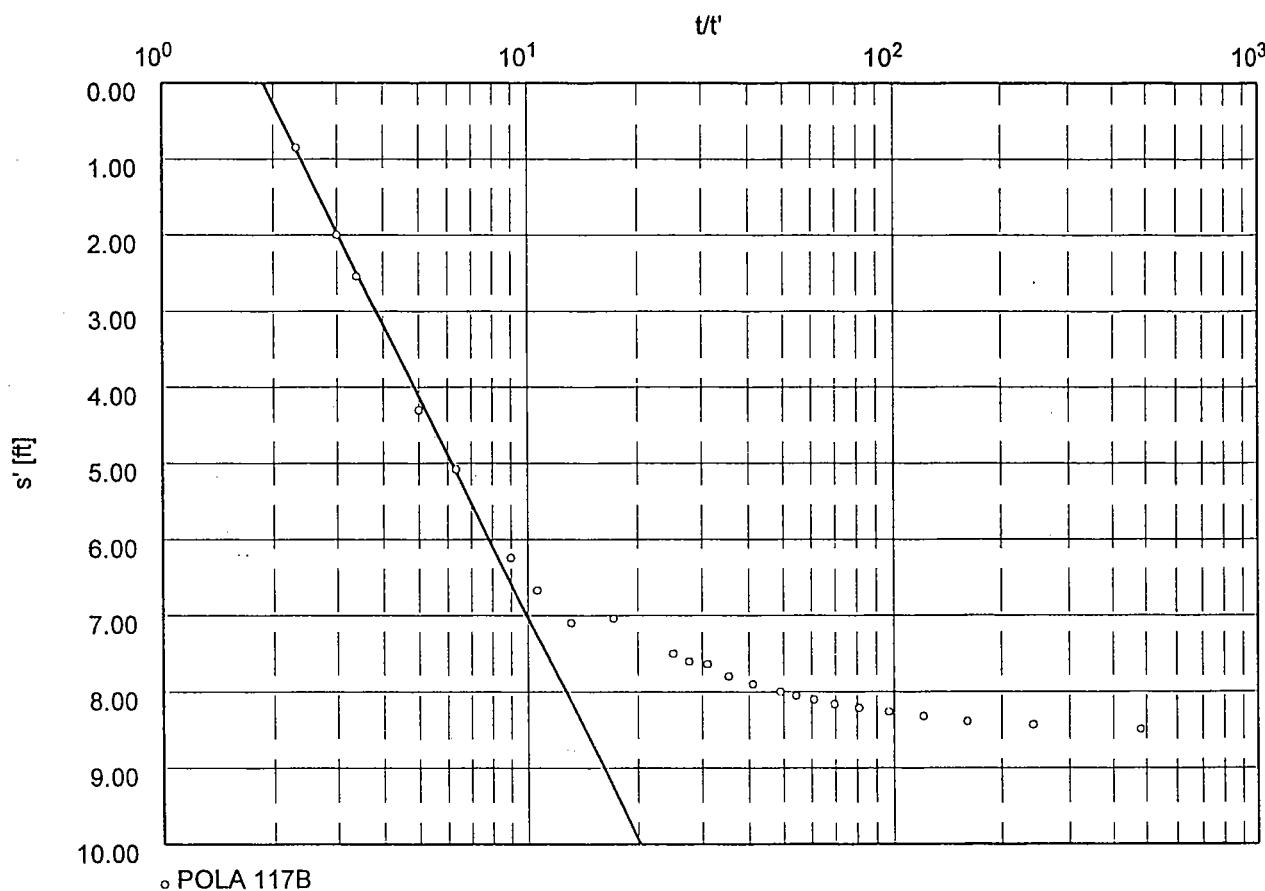
Evaluated by:

Date: 09.05.1997

Pumping Test No.
Discharge 0.19 U.S.gal/min

Test conducted on:

Pumping test duration: 240.00 min



Transmissivity [ft^2/min]: 4.80×10^{-4}

Hydraulic conductivity [ft/min]: 1.60×10^{-5}

Aquifer thickness [ft]: 30.00

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slug/bail test analysis
BOUWER-RICE's method

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Project: Hamilton BRAC

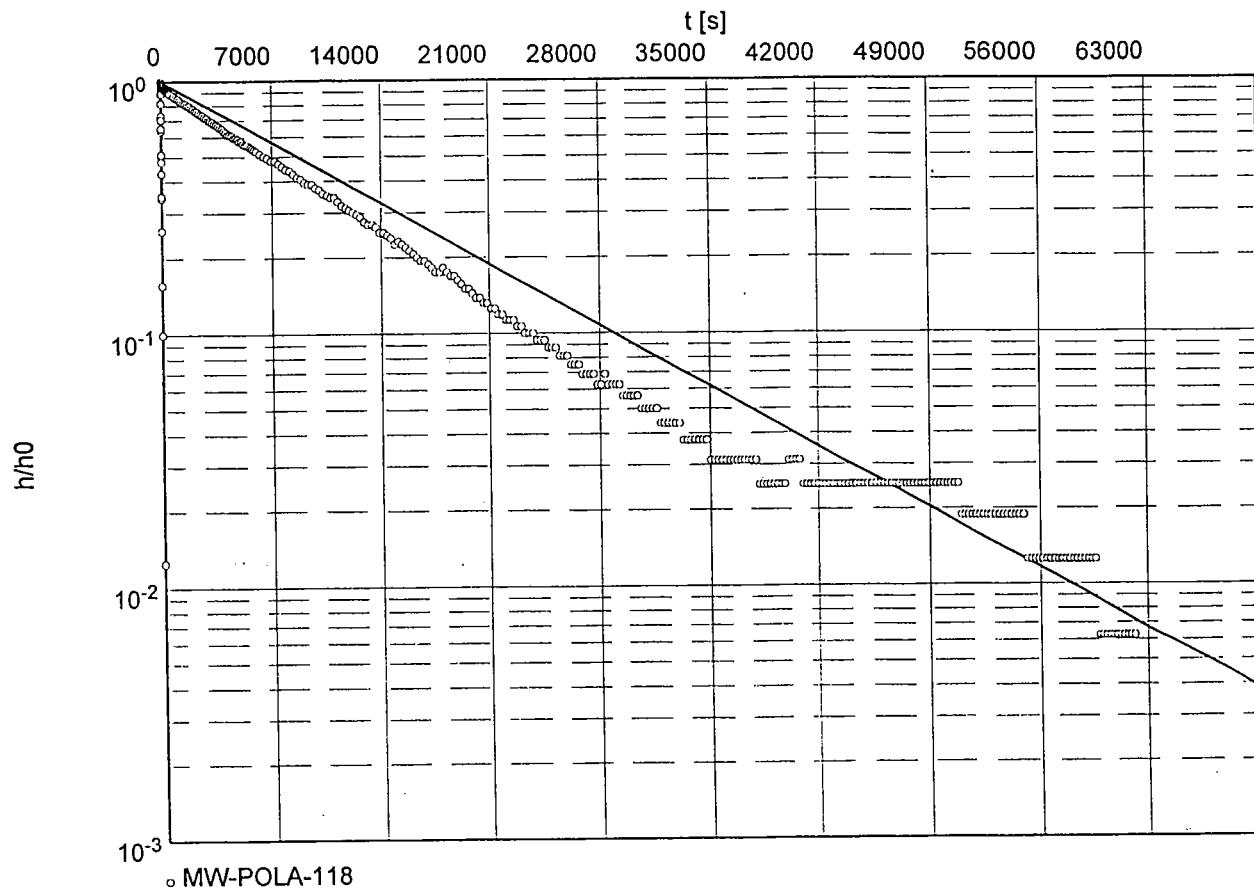
Evaluated by:

Date: 05.15.1997

Slug Test No. SLUG IN

Test conducted on: 5/6/97

MW-POLA-118



Hydraulic conductivity [cm/s]: 1.98×10^{-8}

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slug/bail test analysis
 BOUWER-RICE's method

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Project: Hamilton BRAC

Evaluated by:

Date: 05.15.1997

Slug Test No. SLUG IN

Test conducted on: 5/6/97

MW-POLA-118

MW-POLA-118

Static water level: 0.0 cm below datum

	Pumping test duration [s]	Water level [cm]	Drawdown [cm]
1	0	48.8	48.8
2	1	0.0	0.0
3	1	0.6	0.6
4	2	4.9	4.9
5	2	7.6	7.6
6	3	12.5	12.5
7	4	16.8	16.8
8	4	17.1	17.1
9	5	21.0	21.0
10	5	23.5	23.5
11	6	25.0	25.0
12	7	31.1	31.1
13	7	31.7	31.7
14	8	34.4	34.4
15	8	35.7	35.7
16	9	34.4	34.4
17	10	39.9	39.9
18	10	43.6	43.6
19	11	46.0	46.0
20	11	47.9	47.9
21	12	44.5	44.5
22	13	43.6	43.6
23	13	47.2	47.2
24	14	47.9	47.9
25	14	46.3	46.3
26	15	47.2	47.2
27	16	46.9	46.9
28	16	46.6	46.6
29	17	46.9	46.9
30	17	46.9	46.9
31	18	46.9	46.9
32	19	47.9	47.9
33	19	48.2	48.2
34	20	47.9	47.9
35	21	48.2	48.2
36	22	48.2	48.2
37	23	48.2	48.2
38	24	48.2	48.2
39	25	48.2	48.2
40	26	48.2	48.2
41	27	48.2	48.2
42	28	48.8	48.8
43	29	47.9	47.9
44	30	48.2	48.2
45	31	48.2	48.2
46	32	48.2	48.2
47	33	48.2	48.2
48	34	47.9	47.9
49	35	47.9	47.9
50	36	47.9	47.9

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Project: Hamilton BRAC

Evaluated by: Date: 05.15.1997

Slug Test No. SLUG IN

Test conducted on: 5/6/97

MW-POLA-118

MW-POLA-118

Static water level: 0.0 cm below datum

	Pumping test duration [s]	Water level [cm]	Drawdown [cm]
51	37	47.9	47.9
52	38	47.9	47.9
53	39	47.9	47.9
54	40	47.9	47.9
55	41	47.5	47.5
56	42	47.9	47.9
57	43	47.5	47.5
58	44	47.5	47.5
59	45	47.5	47.5
60	46	47.5	47.5
61	47	47.5	47.5
62	48	47.5	47.5
63	49	47.2	47.2
64	50	47.2	47.2
65	51	47.2	47.2
66	52	47.2	47.2
67	53	47.2	47.2
68	54	47.2	47.2
69	55	47.2	47.2
70	56	47.2	47.2
71	57	47.2	47.2
72	58	46.9	46.9
73	59	47.2	47.2
74	60	46.9	46.9
75	72	46.6	46.6
76	84	46.6	46.6
77	96	46.3	46.3
78	108	46.0	46.0
79	120	46.0	46.0
80	132	46.0	46.0
81	144	46.0	46.0
82	156	45.7	45.7
83	168	45.7	45.7
84	180	45.7	45.7
85	192	45.7	45.7
86	204	45.4	45.4
87	216	45.4	45.4
88	228	45.4	45.4
89	240	45.4	45.4
90	252	45.1	45.1
91	264	45.1	45.1
92	276	45.1	45.1
93	288	44.8	44.8
94	300	44.8	44.8
95	312	45.1	45.1
96	324	44.8	44.8
97	336	44.8	44.8
98	348	44.8	44.8
99	360	44.5	44.5
100	372	44.5	44.5

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Project: Hamilton BRAC

Evaluated by:

Date: 05.15.1997

Slug Test No. SLUG IN

Test conducted on: 5/6/97

MW-POLA-118

MW-POLA-118

Static water level: 0.0 cm below datum

	Pumping test duration [s]	Water level [cm]	Drawdown [cm]	
101	384	44.5	44.5	
102	396	44.5	44.5	
103	408	44.2	44.2	
104	420	44.2	44.2	
105	432	44.2	44.2	
106	444	44.2	44.2	
107	456	44.2	44.2	
108	468	43.9	43.9	
109	480	43.9	43.9	
110	492	43.9	43.9	
111	504	43.9	43.9	
112	516	43.9	43.9	
113	528	43.9	43.9	
114	540	43.9	43.9	
115	552	43.6	43.6	
116	564	43.6	43.6	
117	576	43.6	43.6	
118	588	43.6	43.6	
119	600	43.3	43.3	
120	720	43.0	43.0	
121	840	42.4	42.4	
122	960	41.8	41.8	
123	1080	41.5	41.5	
124	1200	40.8	40.8	
125	1320	40.2	40.2	
126	1440	39.9	39.9	
127	1560	39.6	39.6	
128	1680	39.0	39.0	
129	1800	38.7	38.7	
130	1920	38.1	38.1	
131	2040	37.8	37.8	
132	2160	37.2	37.2	
133	2280	36.9	36.9	
134	2400	36.3	36.3	
135	2520	36.0	36.0	
136	2640	35.7	35.7	
137	2760	35.1	35.1	
138	2880	34.7	34.7	
139	3000	34.1	34.1	
140	3120	33.8	33.8	
141	3240	33.5	33.5	
142	3360	32.9	32.9	
143	3480	32.6	32.6	
144	3600	32.3	32.3	
145	3720	31.7	31.7	
146	3840	31.4	31.4	
147	3960	30.8	30.8	
148	4080	30.5	30.5	
149	4200	29.9	29.9	
150	4320	29.9	29.9	

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Project: Hamilton BRAC

Evaluated by: Date: 05.15.1997

Slug Test No. SLUG IN

Test conducted on: 5/6/97

MW-POLA-118

MW-POLA-118

Static water level: 0.0 cm below datum

	Pumping test duration [s]	Water level [cm]	Drawdown [cm]	
151	4440	29.6	29.6	
152	4560	29.0	29.0	
153	4680	29.0	29.0	
154	4800	28.7	28.7	
155	4920	28.0	28.0	
156	5040	28.0	28.0	
157	5160	27.4	27.4	
158	5280	27.1	27.1	
159	5400	27.1	27.1	
160	5520	26.8	26.8	
161	5640	26.5	26.5	
162	5760	26.2	26.2	
163	5880	25.9	25.9	
164	6000	25.6	25.6	
165	6240	25.0	25.0	
166	6480	24.4	24.4	
167	6720	24.1	24.1	
168	6960	23.5	23.5	
169	7200	23.5	23.5	
170	7440	22.9	22.9	
171	7680	22.3	22.3	
172	7920	21.6	21.6	
173	8160	21.3	21.3	
174	8400	20.7	20.7	
175	8640	20.1	20.1	
176	8880	19.8	19.8	
177	9120	19.2	19.2	
178	9360	18.9	18.9	
179	9600	18.9	18.9	
180	9840	18.3	18.3	
181	10080	18.0	18.0	
182	10320	17.4	17.4	
183	10560	17.1	17.1	
184	10800	16.8	16.8	
185	11040	16.8	16.8	
186	11280	16.2	16.2	
187	11520	15.5	15.5	
188	11760	15.2	15.2	
189	12000	14.9	14.9	
190	12240	14.6	14.6	
191	12480	14.3	14.3	
192	12720	14.0	14.0	
193	12960	13.4	13.4	
194	13200	13.1	13.1	
195	13440	13.1	13.1	
196	13680	12.8	12.8	
197	13920	12.2	12.2	
198	14160	12.2	12.2	
199	14400	11.9	11.9	
200	14640	11.6	11.6	

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Project: Hamilton BRAC

Evaluated by: Date: 05.15.1997

Slug Test No. SLUG IN

Test conducted on: 5/6/97

MW-POLA-118

MW-POLA-118

Static water level: 0.0 cm below datum

	Pumping test duration [s]	Water level [cm]	Drawdown [cm]	
201	14880	11.0	11.0	
202	15120	11.3	11.3	
203	15360	11.0	11.0	
204	15600	10.7	10.7	
205	15840	10.4	10.4	
206	16080	10.1	10.1	
207	16320	9.8	9.8	
208	16560	9.4	9.4	
209	16800	9.4	9.4	
210	17040	9.1	9.1	
211	17280	8.8	8.8	
212	17520	8.5	8.5	
213	17760	8.5	8.5	
214	18000	8.8	8.8	
215	18240	8.5	8.5	
216	18480	8.2	8.2	
217	18720	8.2	8.2	
218	18960	7.9	7.9	
219	19200	7.6	7.6	
220	19440	7.3	7.3	
221	19680	7.3	7.3	
222	19920	7.0	7.0	
223	20160	6.7	6.7	
224	20400	6.7	6.7	
225	20640	6.4	6.4	
226	20880	6.4	6.4	
227	21120	6.1	6.1	
228	21360	6.1	6.1	
229	21600	5.8	5.8	
230	21840	5.8	5.8	
231	22080	5.5	5.5	
232	22320	5.5	5.5	
233	22560	5.5	5.5	
234	22800	5.2	5.2	
235	23040	5.2	5.2	
236	23280	4.9	4.9	
237	23520	4.9	4.9	
238	23760	4.9	4.9	
239	24000	4.6	4.6	
240	24240	4.6	4.6	
241	24480	4.6	4.6	
242	24720	4.3	4.3	
243	24960	4.3	4.3	
244	25200	4.3	4.3	
245	25440	4.0	4.0	
246	25680	4.0	4.0	
247	25920	4.0	4.0	
248	26160	3.7	3.7	
249	26400	3.7	3.7	
250	26640	3.7	3.7	

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Evaluated by:

Date: 05.15.1997

Slug Test No. SLUG IN

Test conducted on: 5/6/97

MW-POLA-118

MW-POLA-118

Static water level: 0.0 cm below datum

	Pumping test duration [s]	Water level [cm]	Drawdown [cm]	
251	26880	3.4	3.4	
252	27120	3.4	3.4	
253	27360	3.4	3.4	
254	27600	3.4	3.4	
255	27840	3.0	3.0	
256	28080	3.0	3.0	
257	28320	3.4	3.4	
258	28560	3.0	3.0	
259	28800	3.0	3.0	
260	29040	3.0	3.0	
261	29280	3.0	3.0	
262	29520	2.7	2.7	
263	29760	2.7	2.7	
264	30000	2.7	2.7	
265	30240	2.7	2.7	
266	30480	2.7	2.7	
267	30720	2.4	2.4	
268	30960	2.4	2.4	
269	31200	2.4	2.4	
270	31440	2.4	2.4	
271	31680	2.4	2.4	
272	31920	2.1	2.1	
273	32160	2.1	2.1	
274	32400	2.1	2.1	
275	32640	2.1	2.1	
276	32880	2.1	2.1	
277	33120	2.1	2.1	
278	33360	1.8	1.8	
279	33600	1.8	1.8	
280	33840	1.8	1.8	
281	34080	1.8	1.8	
282	34320	1.8	1.8	
283	34560	1.8	1.8	
284	34800	1.8	1.8	
285	35040	1.5	1.5	
286	35280	1.5	1.5	
287	35520	1.5	1.5	
288	35760	1.5	1.5	
289	36000	1.5	1.5	
290	36240	1.5	1.5	
291	36480	1.5	1.5	
292	36720	1.5	1.5	
293	36960	1.5	1.5	
294	37200	1.5	1.5	
295	37440	1.5	1.5	
296	37680	1.5	1.5	
297	37920	1.5	1.5	
298	38160	1.2	1.2	
299	38400	1.2	1.2	
300	38640	1.2	1.2	

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Slug Test No. SLUG IN

Test conducted on: 5/6/97

MW-POLA-118

MW-POLA-118

Static water level: 0.0 cm below datum

	Pumping test duration [s]	Water level [cm]	Drawdown [cm]	
301	38880	1.2	1.2	
302	39120	1.2	1.2	
303	39360	1.2	1.2	
304	39600	1.2	1.2	
305	39840	1.2	1.2	
306	40080	1.5	1.5	
307	40320	1.5	1.5	
308	40560	1.5	1.5	
309	40800	1.5	1.5	
310	41040	1.2	1.2	
311	41280	1.2	1.2	
312	41520	1.2	1.2	
313	41760	1.2	1.2	
314	42000	1.2	1.2	
315	42240	1.2	1.2	
316	42480	1.2	1.2	
317	42720	1.2	1.2	
318	42960	1.2	1.2	
319	43200	1.2	1.2	
320	43440	1.2	1.2	
321	43680	1.2	1.2	
322	43920	1.2	1.2	
323	44160	1.2	1.2	
324	44400	1.2	1.2	
325	44640	1.2	1.2	
326	44880	1.2	1.2	
327	45120	1.2	1.2	
328	45360	1.2	1.2	
329	45600	1.2	1.2	
330	45840	1.2	1.2	
331	46080	1.2	1.2	
332	46320	1.2	1.2	
333	46560	1.2	1.2	
334	46800	1.2	1.2	
335	47040	1.2	1.2	
336	47280	1.2	1.2	
337	47520	1.2	1.2	
338	47760	1.2	1.2	
339	48000	1.2	1.2	
340	48240	1.2	1.2	
341	48480	1.2	1.2	
342	48720	1.2	1.2	
343	48960	1.2	1.2	
344	49200	1.2	1.2	
345	49440	1.2	1.2	
346	49680	1.2	1.2	
347	49920	1.2	1.2	
348	50160	1.2	1.2	
349	50400	1.2	1.2	
350	50640	1.2	1.2	

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Slug Test No. SLUG IN

Test conducted on: 5/6/97

MW-POLA-118

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Static water level: 0.0 cm below datum

	Pumping test duration [s]	Water level [cm]	Drawdown [cm]	
351	50880	1.2	1.2	
352	51120	0.9	0.9	
353	51360	0.9	0.9	
354	51600	0.9	0.9	
355	51840	0.9	0.9	
356	52080	0.9	0.9	
357	52320	0.9	0.9	
358	52560	0.9	0.9	
359	52800	0.9	0.9	
360	53040	0.9	0.9	
361	53280	0.9	0.9	
362	53520	0.9	0.9	
363	53760	0.9	0.9	
364	54000	0.9	0.9	
365	54240	0.9	0.9	
366	54480	0.9	0.9	
367	54720	0.9	0.9	
368	54960	0.9	0.9	
369	55200	0.6	0.6	
370	55440	0.6	0.6	
371	55680	0.6	0.6	
372	55920	0.6	0.6	
373	56160	0.6	0.6	
374	56400	0.6	0.6	
375	56640	0.6	0.6	
376	56880	0.6	0.6	
377	57120	0.6	0.6	
378	57360	0.6	0.6	
379	57600	0.6	0.6	
380	57840	0.6	0.6	
381	58080	0.6	0.6	
382	58320	0.6	0.6	
383	58560	0.6	0.6	
384	58800	0.6	0.6	
385	59040	0.6	0.6	
386	59280	0.6	0.6	
387	59520	0.6	0.6	
388	59760	0.3	0.3	
389	60000	0.3	0.3	
390	60240	0.3	0.3	
391	60480	0.3	0.3	
392	60720	0.3	0.3	
393	60960	0.3	0.3	
394	61200	0.3	0.3	
395	61440	0.3	0.3	
396	61680	0.3	0.3	
397	61920	0.3	0.3	
398	62160	0.3	0.3	

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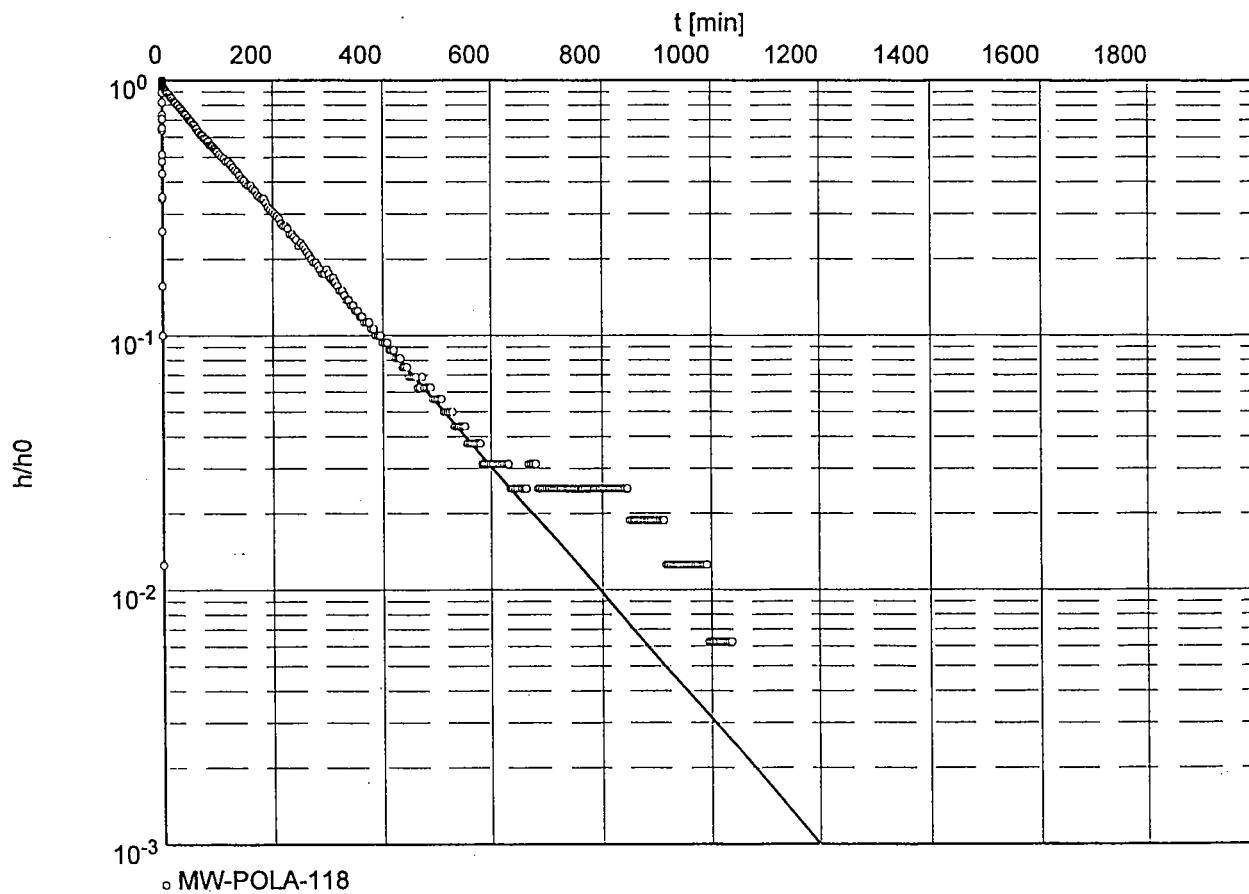
Project:

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Hydraulic conductivity [ft/min]: 2.26×10^{-5}

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Slug Test No.

Test conducted on:

MW-POLA-118

Static water level: 0.00 ft below datum

	Pumping test duration [min]	Water level [ft]	Change in Waterlevel [ft]
1	0.00	1.60	1.60
2	0.01	0.00	0.00
3	0.02	0.02	0.02
4	0.03	0.16	0.16
5	0.04	0.25	0.25
6	0.05	0.41	0.41
7	0.06	0.55	0.55
8	0.07	0.56	0.56
9	0.08	0.69	0.69
10	0.09	0.77	0.77
11	0.10	0.82	0.82
12	0.11	1.02	1.02
13	0.12	1.04	1.04
14	0.13	1.13	1.13
15	0.14	1.17	1.17
16	0.15	1.13	1.13
17	0.16	1.31	1.31
18	0.17	1.43	1.43
19	0.18	1.51	1.51
20	0.19	1.57	1.57
21	0.20	1.46	1.46
22	0.21	1.43	1.43
23	0.22	1.55	1.55
24	0.23	1.57	1.57
25	0.24	1.52	1.52
26	0.25	1.55	1.55
27	0.26	1.54	1.54
28	0.27	1.53	1.53
29	0.28	1.54	1.54
30	0.29	1.54	1.54
31	0.30	1.54	1.54
32	0.31	1.57	1.57
33	0.32	1.58	1.58
34	0.33	1.57	1.57
35	0.35	1.58	1.58
36	0.37	1.58	1.58
37	0.38	1.58	1.58
38	0.40	1.58	1.58
39	0.42	1.58	1.58
40	0.43	1.58	1.58
41	0.45	1.58	1.58
42	0.47	1.60	1.60
43	0.48	1.57	1.57
44	0.50	1.58	1.58
45	0.52	1.58	1.58
46	0.53	1.58	1.58
47	0.55	1.58	1.58
48	0.57	1.57	1.57
49	0.58	1.57	1.57
50	0.60	1.57	1.57

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Slug Test No.

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Static water level: 0.00 ft below datum

	Pumping test duration [min]	Water level [ft]	Change in Waterlevel [ft]
51	0.62	1.57	1.57
52	0.63	1.57	1.57
53	0.65	1.57	1.57
54	0.67	1.57	1.57
55	0.68	1.56	1.56
56	0.70	1.57	1.57
57	0.72	1.56	1.56
58	0.73	1.56	1.56
59	0.75	1.56	1.56
60	0.77	1.56	1.56
61	0.78	1.56	1.56
62	0.80	1.56	1.56
63	0.82	1.55	1.55
64	0.83	1.55	1.55
65	0.85	1.55	1.55
66	0.87	1.55	1.55
67	0.88	1.55	1.55
68	0.90	1.55	1.55
69	0.92	1.55	1.55
70	0.93	1.55	1.55
71	0.95	1.55	1.55
72	0.97	1.54	1.54
73	0.98	1.55	1.55
74	1.00	1.54	1.54
75	1.20	1.53	1.53
76	1.40	1.53	1.53
77	1.60	1.52	1.52
78	1.80	1.51	1.51
79	2.00	1.51	1.51
80	2.20	1.51	1.51
81	2.40	1.51	1.51
82	2.60	1.50	1.50
83	2.80	1.50	1.50
84	3.00	1.50	1.50
85	3.20	1.50	1.50
86	3.40	1.49	1.49
87	3.60	1.49	1.49
88	3.80	1.49	1.49
89	4.00	1.49	1.49
90	4.20	1.48	1.48
91	4.40	1.48	1.48
92	4.60	1.48	1.48
93	4.80	1.47	1.47
94	5.00	1.47	1.47
95	5.20	1.48	1.48
96	5.40	1.47	1.47
97	5.60	1.47	1.47
98	5.80	1.47	1.47
99	6.00	1.46	1.46
100	6.20	1.46	1.46

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Static water level: 0.00 ft below datum

	Pumping test duration [min]	Water level [ft]	Change in Waterlevel [ft]
101	6.40	1.46	1.46
102	6.60	1.46	1.46
103	6.80	1.45	1.45
104	7.00	1.45	1.45
105	7.20	1.45	1.45
106	7.40	1.45	1.45
107	7.60	1.45	1.45
108	7.80	1.44	1.44
109	8.00	1.44	1.44
110	8.20	1.44	1.44
111	8.40	1.44	1.44
112	8.60	1.44	1.44
113	8.80	1.44	1.44
114	9.00	1.44	1.44
115	9.20	1.43	1.43
116	9.40	1.43	1.43
117	9.60	1.43	1.43
118	9.80	1.43	1.43
119	10.00	1.42	1.42
120	12.00	1.41	1.41
121	14.00	1.39	1.39
122	16.00	1.37	1.37
123	18.00	1.36	1.36
124	20.00	1.34	1.34
125	22.00	1.32	1.32
126	24.00	1.31	1.31
127	26.00	1.30	1.30
128	28.00	1.28	1.28
129	30.00	1.27	1.27
130	32.00	1.25	1.25
131	34.00	1.24	1.24
132	36.00	1.22	1.22
133	38.00	1.21	1.21
134	40.00	1.19	1.19
135	42.00	1.18	1.18
136	44.00	1.17	1.17
137	46.00	1.15	1.15
138	48.00	1.14	1.14
139	50.00	1.12	1.12
140	52.00	1.11	1.11
141	54.00	1.10	1.10
142	56.00	1.08	1.08
143	58.00	1.07	1.07
144	60.00	1.06	1.06
145	62.00	1.04	1.04
146	64.00	1.03	1.03
147	66.00	1.01	1.01
148	68.00	1.00	1.00
149	70.00	0.98	0.98
150	72.00	0.98	0.98

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Slug Test No.

Test conducted on:

MW-POLA-118

Static water level: 0.00 ft below datum

	Pumping test duration [min]	Water level [ft]	Change in Waterlevel [ft]
151	74.00	0.97	0.97
152	76.00	0.95	0.95
153	78.00	0.95	0.95
154	80.00	0.94	0.94
155	82.00	0.92	0.92
156	84.00	0.92	0.92
157	86.00	0.90	0.90
158	88.00	0.89	0.89
159	90.00	0.89	0.89
160	92.00	0.88	0.88
161	94.00	0.87	0.87
162	96.00	0.86	0.86
163	98.00	0.85	0.85
164	100.00	0.84	0.84
165	104.00	0.82	0.82
166	108.00	0.80	0.80
167	112.00	0.79	0.79
168	116.00	0.77	0.77
169	120.00	0.77	0.77
170	124.00	0.75	0.75
171	128.00	0.73	0.73
172	132.00	0.71	0.71
173	136.00	0.70	0.70
174	140.00	0.68	0.68
175	144.00	0.66	0.66
176	148.00	0.65	0.65
177	152.00	0.63	0.63
178	156.00	0.62	0.62
179	160.00	0.62	0.62
180	164.00	0.60	0.60
181	168.00	0.59	0.59
182	172.00	0.57	0.57
183	176.00	0.56	0.56
184	180.00	0.55	0.55
185	184.00	0.55	0.55
186	188.00	0.53	0.53
187	192.00	0.51	0.51
188	196.00	0.50	0.50
189	200.00	0.49	0.49
190	204.00	0.48	0.48
191	208.00	0.47	0.47
192	212.00	0.46	0.46
193	216.00	0.44	0.44
194	220.00	0.43	0.43
195	224.00	0.43	0.43
196	228.00	0.42	0.42
197	232.00	0.40	0.40
198	236.00	0.40	0.40
199	240.00	0.39	0.39
200	244.00	0.38	0.38

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Static water level: 0.00 ft below datum

	Pumping test duration [min]	Water level [ft]	Change in Waterlevel [ft]
201	248.00	0.36	0.36
202	252.00	0.37	0.37
203	256.00	0.36	0.36
204	260.00	0.35	0.35
205	264.00	0.34	0.34
206	268.00	0.33	0.33
207	272.00	0.32	0.32
208	276.00	0.31	0.31
209	280.00	0.31	0.31
210	284.00	0.30	0.30
211	288.00	0.29	0.29
212	292.00	0.28	0.28
213	296.00	0.28	0.28
214	300.00	0.29	0.29
215	304.00	0.28	0.28
216	308.00	0.27	0.27
217	312.00	0.27	0.27
218	316.00	0.26	0.26
219	320.00	0.25	0.25
220	324.00	0.24	0.24
221	328.00	0.24	0.24
222	332.00	0.23	0.23
223	336.00	0.22	0.22
224	340.00	0.22	0.22
225	344.00	0.21	0.21
226	348.00	0.21	0.21
227	352.00	0.20	0.20
228	356.00	0.20	0.20
229	360.00	0.19	0.19
230	364.00	0.19	0.19
231	368.00	0.18	0.18
232	372.00	0.18	0.18
233	376.00	0.18	0.18
234	380.00	0.17	0.17
235	384.00	0.17	0.17
236	388.00	0.16	0.16
237	392.00	0.16	0.16
238	396.00	0.16	0.16
239	400.00	0.15	0.15
240	404.00	0.15	0.15
241	408.00	0.15	0.15
242	412.00	0.14	0.14
243	416.00	0.14	0.14
244	420.00	0.14	0.14
245	424.00	0.13	0.13
246	428.00	0.13	0.13
247	432.00	0.13	0.13
248	436.00	0.12	0.12
249	440.00	0.12	0.12
250	444.00	0.12	0.12

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Static water level: 0.00 ft below datum

	Pumping test duration [min]	Water level [ft]	Change in Waterlevel [ft]	
251	448.00	0.11	0.11	
252	452.00	0.11	0.11	
253	456.00	0.11	0.11	
254	460.00	0.11	0.11	
255	464.00	0.10	0.10	
256	468.00	0.10	0.10	
257	472.00	0.11	0.11	
258	476.00	0.10	0.10	
259	480.00	0.10	0.10	
260	484.00	0.10	0.10	
261	488.00	0.10	0.10	
262	492.00	0.09	0.09	
263	496.00	0.09	0.09	
264	500.00	0.09	0.09	
265	504.00	0.09	0.09	
266	508.00	0.09	0.09	
267	512.00	0.08	0.08	
268	516.00	0.08	0.08	
269	520.00	0.08	0.08	
270	524.00	0.08	0.08	
271	528.00	0.08	0.08	
272	532.00	0.07	0.07	
273	536.00	0.07	0.07	
274	540.00	0.07	0.07	
275	544.00	0.07	0.07	
276	548.00	0.07	0.07	
277	552.00	0.07	0.07	
278	556.00	0.06	0.06	
279	560.00	0.06	0.06	
280	564.00	0.06	0.06	
281	568.00	0.06	0.06	
282	572.00	0.06	0.06	
283	576.00	0.06	0.06	
284	580.00	0.06	0.06	
285	584.00	0.05	0.05	
286	588.00	0.05	0.05	
287	592.00	0.05	0.05	
288	596.00	0.05	0.05	
289	600.00	0.05	0.05	
290	604.00	0.05	0.05	
291	608.00	0.05	0.05	
292	612.00	0.05	0.05	
293	616.00	0.05	0.05	
294	620.00	0.05	0.05	
295	624.00	0.05	0.05	
296	628.00	0.05	0.05	
297	632.00	0.05	0.05	
298	636.00	0.04	0.04	
299	640.00	0.04	0.04	
300	644.00	0.04	0.04	

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Project:

Evaluated by:

Date: 11.05.1997

Slug Test No.

Test conducted on:

MW-POLA-118

Static water level: 0.00 ft below datum

	Pumping test duration [min]	Water level [ft]	Change in Waterlevel [ft]
301	648.00	0.04	0.04
302	652.00	0.04	0.04
303	656.00	0.04	0.04
304	660.00	0.04	0.04
305	664.00	0.04	0.04
306	668.00	0.05	0.05
307	672.00	0.05	0.05
308	676.00	0.05	0.05
309	680.00	0.05	0.05
310	684.00	0.04	0.04
311	688.00	0.04	0.04
312	692.00	0.04	0.04
313	696.00	0.04	0.04
314	700.00	0.04	0.04
315	704.00	0.04	0.04
316	708.00	0.04	0.04
317	712.00	0.04	0.04
318	716.00	0.04	0.04
319	720.00	0.04	0.04
320	724.00	0.04	0.04
321	728.00	0.04	0.04
322	732.00	0.04	0.04
323	736.00	0.04	0.04
324	740.00	0.04	0.04
325	744.00	0.04	0.04
326	748.00	0.04	0.04
327	752.00	0.04	0.04
328	756.00	0.04	0.04
329	760.00	0.04	0.04
330	764.00	0.04	0.04
331	768.00	0.04	0.04
332	772.00	0.04	0.04
333	776.00	0.04	0.04
334	780.00	0.04	0.04
335	784.00	0.04	0.04
336	788.00	0.04	0.04
337	792.00	0.04	0.04
338	796.00	0.04	0.04
339	800.00	0.04	0.04
340	804.00	0.04	0.04
341	808.00	0.04	0.04
342	812.00	0.04	0.04
343	816.00	0.04	0.04
344	820.00	0.04	0.04
345	824.00	0.04	0.04
346	828.00	0.04	0.04
347	832.00	0.04	0.04
348	836.00	0.04	0.04
349	840.00	0.04	0.04
350	844.00	0.04	0.04

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				Project:
		Evaluated by:		Date: 11.05.1997
Slug Test No.		Test conducted on:		
		MW-POLA-118		
Static water level: 0.00 ft below datum				
	Pumping test duration [min]	Water level [ft]	Change in Waterlevel [ft]	
351	848.00	0.04	0.04	
352	852.00	0.03	0.03	
353	856.00	0.03	0.03	
354	860.00	0.03	0.03	
355	864.00	0.03	0.03	
356	868.00	0.03	0.03	
357	872.00	0.03	0.03	
358	876.00	0.03	0.03	
359	880.00	0.03	0.03	
360	884.00	0.03	0.03	
361	888.00	0.03	0.03	
362	892.00	0.03	0.03	
363	896.00	0.03	0.03	
364	900.00	0.03	0.03	
365	904.00	0.03	0.03	
366	908.00	0.03	0.03	
367	912.00	0.03	0.03	
368	916.00	0.03	0.03	
369	920.00	0.02	0.02	
370	924.00	0.02	0.02	
371	928.00	0.02	0.02	
372	932.00	0.02	0.02	
373	936.00	0.02	0.02	
374	940.00	0.02	0.02	
375	944.00	0.02	0.02	
376	948.00	0.02	0.02	
377	952.00	0.02	0.02	
378	956.00	0.02	0.02	
379	960.00	0.02	0.02	
380	964.00	0.02	0.02	
381	968.00	0.02	0.02	
382	972.00	0.02	0.02	
383	976.00	0.02	0.02	
384	980.00	0.02	0.02	
385	984.00	0.02	0.02	
386	988.00	0.02	0.02	
387	992.00	0.02	0.02	
388	996.00	0.01	0.01	
389	1000.00	0.01	0.01	
390	1004.00	0.01	0.01	
391	1008.00	0.01	0.01	
392	1012.00	0.01	0.01	
393	1016.00	0.01	0.01	
394	1020.00	0.01	0.01	
395	1024.00	0.01	0.01	
396	1028.00	0.01	0.01	
397	1032.00	0.01	0.01	
398	1036.00	0.01	0.01	

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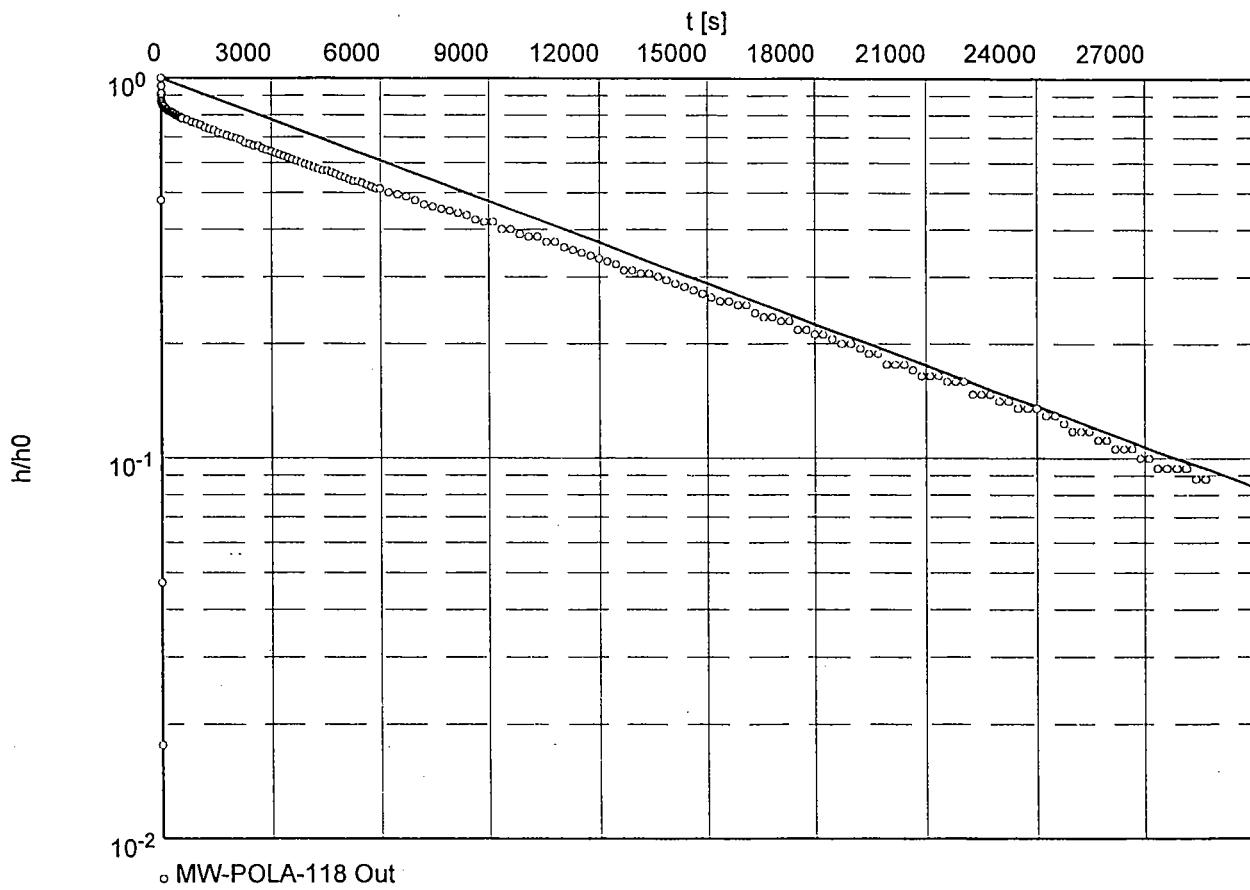
Project: Hamilton BRAC

Evaluated by: P.L. Date: 05.15.1997

Slug Test No. SLUG OUT

Test conducted on: 5/7/97

MW-POLA-118



Hydraulic conductivity [cm/s]: 2.06×10^{-8}

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Slug Test No. SLUG OUT

Test conducted on: 5/7/97

MW-POLA-118

MW-POLA-118 Out

Static water level: 0.0 cm below datum

	Pumping test duration [s]	Water level [cm]	Drawdown [cm]	
1	0	51.8	51.8	
2	2	0.9	0.9	
3	2	-2.4	-2.4	
4	3	24.7	24.7	
5	4	53.0	53.0	
6	4	56.4	56.4	
7	5	52.1	52.1	
8	5	49.4	49.4	
9	6	47.2	47.2	
10	7	46.0	46.0	
11	7	45.4	45.4	
12	8	45.1	45.1	
13	8	44.8	44.8	
14	9	44.8	44.8	
15	10	44.8	44.8	
16	10	44.8	44.8	
17	11	44.8	44.8	
18	11	44.8	44.8	
19	12	44.8	44.8	
20	13	44.8	44.8	
21	13	44.8	44.8	
22	14	44.8	44.8	
23	14	44.8	44.8	
24	15	44.8	44.8	
25	16	44.8	44.8	
26	16	44.8	44.8	
27	17	44.8	44.8	
28	17	44.8	44.8	
29	18	44.8	44.8	
30	19	44.8	44.8	
31	19	44.8	44.8	
32	20	44.8	44.8	
33	21	44.8	44.8	
34	22	44.8	44.8	
35	23	44.8	44.8	
36	24	44.8	44.8	
37	25	44.8	44.8	
38	26	44.5	44.5	
39	27	44.5	44.5	
40	28	44.5	44.5	
41	29	44.5	44.5	
42	30	44.5	44.5	
43	31	44.5	44.5	
44	32	44.5	44.5	
45	33	44.2	44.2	
46	34	44.2	44.2	
47	35	44.2	44.2	
48	36	44.2	44.2	
49	37	44.2	44.2	
50	38	44.2	44.2	

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Slug Test No. SLUG OUT

Test conducted on: 5/7/97

MW-POLA-118

MW-POLA-118 Out

Static water level: 0.0 cm below datum

	Pumping test duration [s]	Water level [cm]	Drawdown [cm]
51	39	44.2	44.2
52	40	44.2	44.2
53	41	44.2	44.2
54	42	44.2	44.2
55	43	44.2	44.2
56	44	44.2	44.2
57	45	44.2	44.2
58	46	44.2	44.2
59	47	43.9	43.9
60	48	43.9	43.9
61	49	43.9	43.9
62	50	43.9	43.9
63	51	43.9	43.9
64	52	43.9	43.9
65	53	43.9	43.9
66	54	43.9	43.9
67	55	43.9	43.9
68	56	43.9	43.9
69	57	43.9	43.9
70	58	43.9	43.9
71	59	43.9	43.9
72	60	43.9	43.9
73	72	43.6	43.6
74	84	43.6	43.6
75	96	43.3	43.3
76	108	43.3	43.3
77	120	43.3	43.3
78	132	43.0	43.0
79	144	43.0	43.0
80	156	43.0	43.0
81	168	42.7	42.7
82	180	42.7	42.7
83	192	42.7	42.7
84	204	42.4	42.4
85	216	42.4	42.4
86	228	42.4	42.4
87	240	42.4	42.4
88	252	42.4	42.4
89	264	42.4	42.4
90	276	42.1	42.1
91	288	42.1	42.1
92	300	42.1	42.1
93	312	42.1	42.1
94	324	41.8	41.8
95	336	41.8	41.8
96	348	41.8	41.8
97	360	41.8	41.8
98	372	41.5	41.5
99	384	41.5	41.5
100	396	41.5	41.5

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Slug Test No. SLUG OUT

Test conducted on: 5/7/97

MW-POLA-118

MW-POLA-118 Out

Static water level: 0.0 cm below datum

	Pumping test duration [s]	Water level [cm]	Drawdown [cm]	
101	408	41.5	41.5	
102	420	41.1	41.1	
103	432	41.1	41.1	
104	444	41.1	41.1	
105	456	41.1	41.1	
106	468	41.1	41.1	
107	480	41.1	41.1	
108	492	41.1	41.1	
109	504	40.8	40.8	
110	516	40.8	40.8	
111	528	40.8	40.8	
112	540	40.8	40.8	
113	552	40.8	40.8	
114	564	40.5	40.5	
115	576	40.5	40.5	
116	588	40.5	40.5	
117	600	40.5	40.5	
118	720	40.2	40.2	
119	840	39.6	39.6	
120	960	39.3	39.3	
121	1080	39.0	39.0	
122	1200	38.4	38.4	
123	1320	38.1	38.1	
124	1440	37.8	37.8	
125	1560	37.2	37.2	
126	1680	36.9	36.9	
127	1800	36.6	36.6	
128	1920	36.3	36.3	
129	2040	36.0	36.0	
130	2160	35.7	35.7	
131	2280	35.1	35.1	
132	2400	34.7	34.7	
133	2520	34.4	34.4	
134	2640	34.4	34.4	
135	2760	33.8	33.8	
136	2880	33.5	33.5	
137	3000	33.2	33.2	
138	3120	32.9	32.9	
139	3240	32.6	32.6	
140	3360	32.3	32.3	
141	3480	32.0	32.0	
142	3600	31.7	31.7	
143	3720	31.4	31.4	
144	3840	31.1	31.1	
145	3960	30.8	30.8	
146	4080	30.5	30.5	
147	4200	30.2	30.2	
148	4320	29.9	29.9	
149	4440	29.6	29.6	
150	4560	29.6	29.6	

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Project: Hamilton BRAC

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Slug Test No. SLUG OUT

Test conducted on: 5/7/97

MW-POLA-118

MW-POLA-118 Out

Static water level: 0.0 cm below datum

	Pumping test duration [s]	Water level [cm]	Drawdown [cm]
151	4680	29.3	29.3
152	4800	29.0	29.0
153	4920	28.7	28.7
154	5040	28.3	28.3
155	5160	28.0	28.0
156	5280	27.7	27.7
157	5400	27.7	27.7
158	5520	27.4	27.4
159	5640	27.1	27.1
160	5760	26.8	26.8
161	5880	26.5	26.5
162	6000	26.5	26.5
163	6240	25.9	25.9
164	6480	25.6	25.6
165	6720	25.3	25.3
166	6960	24.7	24.7
167	7200	24.1	24.1
168	7440	23.8	23.8
169	7680	23.5	23.5
170	7920	23.2	23.2
171	8160	22.9	22.9
172	8400	22.6	22.6
173	8640	21.9	21.9
174	8880	21.6	21.6
175	9120	21.6	21.6
176	9360	20.7	20.7
177	9600	20.7	20.7
178	9840	20.1	20.1
179	10080	19.8	19.8
180	10320	19.8	19.8
181	10560	19.2	19.2
182	10800	19.2	19.2
183	11040	18.6	18.6
184	11280	18.3	18.3
185	11520	18.0	18.0
186	11760	17.7	17.7
187	12000	17.4	17.4
188	12240	17.1	17.1
189	12480	16.8	16.8
190	12720	16.2	16.2
191	12960	16.2	16.2
192	13200	15.8	15.8
193	13440	15.8	15.8
194	13680	15.5	15.5
195	13920	15.2	15.2
196	14160	14.9	14.9
197	14400	14.6	14.6
198	14640	14.3	14.3
199	14880	14.0	14.0
200	15120	13.7	13.7

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Slug Test No. SLUG OUT

Test conducted on: 5/7/97

MW-POLA-118

MW-POLA-118 Out

Static water level: 0.0 cm below datum

	Pumping test duration [s]	Water level [cm]	Drawdown [cm]	
201	15360	13.4	13.4	
202	15600	13.4	13.4	
203	15840	13.1	13.1	
204	16080	13.1	13.1	
205	16320	12.5	12.5	
206	16560	12.2	12.2	
207	16800	12.2	12.2	
208	17040	11.9	11.9	
209	17280	11.9	11.9	
210	17520	11.3	11.3	
211	17760	11.3	11.3	
212	18000	11.0	11.0	
213	18240	11.0	11.0	
214	18480	10.7	10.7	
215	18720	10.4	10.4	
216	18960	10.4	10.4	
217	19200	10.1	10.1	
218	19440	9.8	9.8	
219	19680	9.8	9.8	
220	19920	9.1	9.1	
221	20160	9.1	9.1	
222	20400	9.1	9.1	
223	20640	8.8	8.8	
224	20880	8.5	8.5	
225	21120	8.5	8.5	
226	21360	8.5	8.5	
227	21600	8.2	8.2	
228	21840	8.2	8.2	
229	22080	8.2	8.2	
230	22320	7.6	7.6	
231	22560	7.6	7.6	
232	22800	7.6	7.6	
233	23040	7.3	7.3	
234	23280	7.3	7.3	
235	23520	7.0	7.0	
236	23760	7.0	7.0	
237	24000	7.0	7.0	
238	24240	6.7	6.7	
239	24480	6.7	6.7	
240	24720	6.4	6.4	
241	24960	6.1	6.1	
242	25200	6.1	6.1	
243	25440	6.1	6.1	
244	25680	5.8	5.8	
245	25920	5.8	5.8	
246	26160	5.5	5.5	
247	26400	5.5	5.5	
248	26640	5.5	5.5	
249	26880	5.2	5.2	
250	27120	5.2	5.2	

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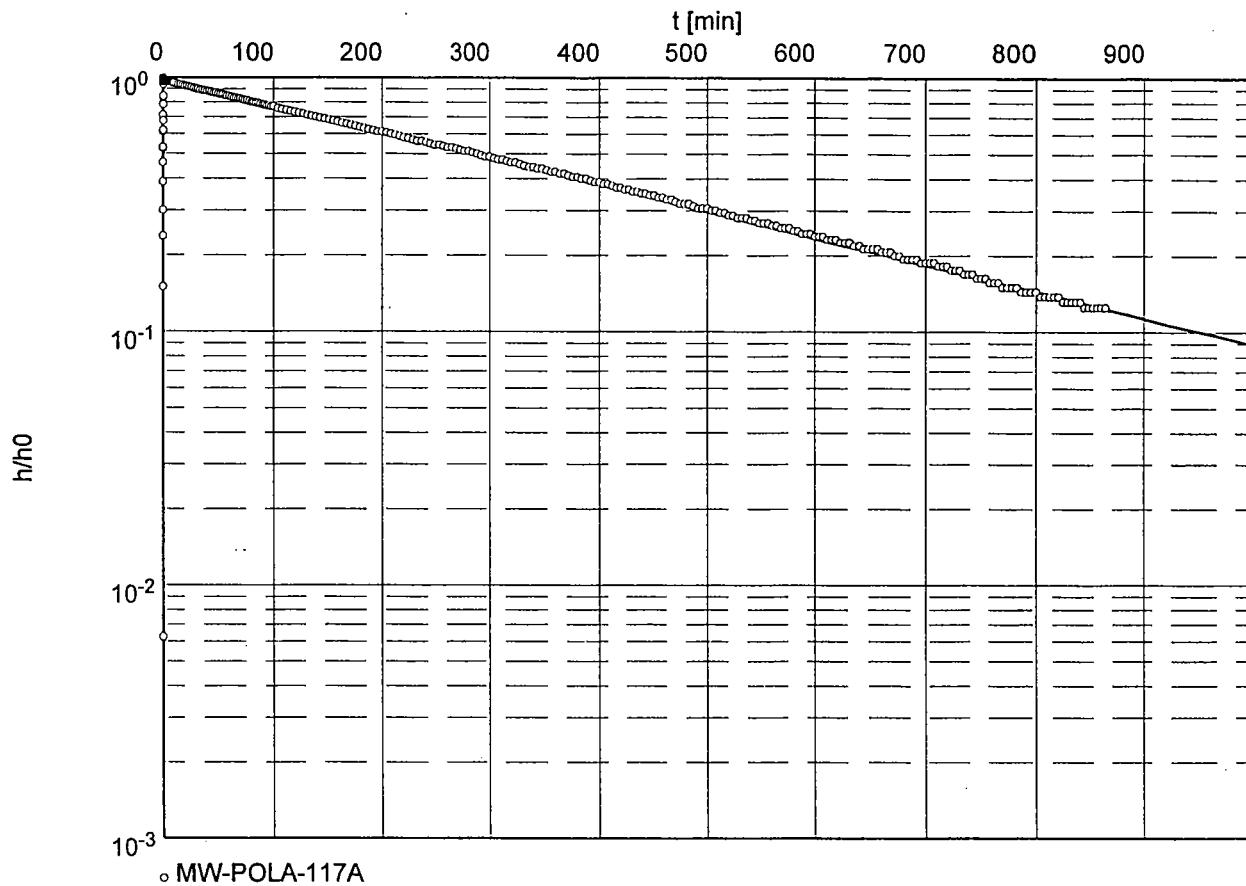
Project:

Evaluated by:

Date: 11.05.1997

Slug Test No.

Test conducted on:



Hydraulic conductivity [ft/min]: 8.99×10^{-6}

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Project:

Evaluated by:

Date: 11.05.1997

Slug Test No.

Test conducted on:

MW-POLA-117A

Static water level: 0.00 ft below datum

	Pumping test duration [min]	Water level [ft]	Change in Waterlevel [ft]
1	0.00	1.60	1.60
2	0.01	0.00	0.00
3	0.02	0.00	0.00
4	0.03	0.01	0.01
5	0.04	0.00	0.00
6	0.05	0.00	0.00
7	0.06	0.24	0.24
8	0.07	0.38	0.38
9	0.08	0.48	0.48
10	0.09	0.62	0.62
11	0.10	0.74	0.74
12	0.11	0.84	0.84
13	0.12	0.85	0.85
14	0.13	0.98	0.98
15	0.14	1.14	1.14
16	0.15	0.99	0.99
17	0.16	1.08	1.08
18	0.17	1.26	1.26
19	0.18	1.25	1.25
20	0.19	1.34	1.34
21	0.20	1.35	1.35
22	0.21	1.51	1.51
23	0.22	1.50	1.50
24	0.23	1.53	1.53
25	0.24	1.56	1.56
26	0.25	1.58	1.58
27	0.26	1.58	1.58
28	0.27	1.58	1.58
29	0.28	1.56	1.56
30	0.29	1.57	1.57
31	0.30	1.57	1.57
32	0.31	1.56	1.56
33	0.32	1.57	1.57
34	0.33	1.54	1.54
35	0.35	1.56	1.56
36	0.37	1.58	1.58
37	0.38	1.57	1.57
38	0.40	1.58	1.58
39	0.42	1.56	1.56
40	0.43	1.57	1.57
41	0.45	1.56	1.56
42	0.47	1.56	1.56
43	0.48	1.56	1.56
44	0.50	1.56	1.56
45	0.52	1.56	1.56
46	0.53	1.56	1.56
47	0.55	1.56	1.56
48	0.57	1.56	1.56
49	0.58	1.56	1.56
50	0.60	1.56	1.56

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Project:

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Slug Test No.

Test conducted on:

MW-POLA-117A

Static water level: 0.00 ft below datum

	Pumping test duration [min]	Water level [ft]	Change in Waterlevel [ft]
51	0.62	1.56	1.56
52	0.63	1.56	1.56
53	0.65	1.56	1.56
54	0.67	1.56	1.56
55	0.68	1.56	1.56
56	0.70	1.56	1.56
57	0.72	1.56	1.56
58	0.73	1.56	1.56
59	0.75	1.56	1.56
60	0.77	1.56	1.56
61	0.78	1.56	1.56
62	0.80	1.56	1.56
63	0.82	1.56	1.56
64	0.83	1.56	1.56
65	0.85	1.56	1.56
66	0.87	1.56	1.56
67	0.88	1.56	1.56
68	0.90	1.56	1.56
69	0.92	1.56	1.56
70	0.93	1.56	1.56
71	0.95	1.56	1.56
72	0.97	1.56	1.56
73	0.98	1.56	1.56
74	1.00	1.56	1.56
75	1.20	1.55	1.55
76	1.40	1.56	1.56
77	1.60	1.56	1.56
78	1.80	1.56	1.56
79	2.00	1.56	1.56
80	2.20	1.56	1.56
81	2.40	1.57	1.57
82	2.60	1.56	1.56
83	2.80	1.56	1.56
84	3.00	1.56	1.56
85	3.20	1.56	1.56
86	3.40	1.56	1.56
87	3.60	1.55	1.55
88	3.80	1.55	1.55
89	4.00	1.55	1.55
90	4.20	1.55	1.55
91	4.40	1.55	1.55
92	4.60	1.55	1.55
93	4.80	1.55	1.55
94	5.00	1.55	1.55
95	5.20	1.54	1.54
96	5.40	1.54	1.54
97	5.60	1.54	1.54
98	5.80	1.54	1.54
99	6.00	1.54	1.54
100	6.20	1.54	1.54

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Project:

Evaluated by:

Date: 11.05.1997

Slug Test No.

Test conducted on:

MW-POLA-117A

Static water level: 0.00 ft below datum

	Pumping test duration [min]	Water level [ft]	Change in Waterlevel [ft]
101	6.40	1.54	1.54
102	6.60	1.54	1.54
103	6.80	1.54	1.54
104	7.00	1.53	1.53
105	7.20	1.53	1.53
106	7.40	1.53	1.53
107	7.60	1.53	1.53
108	7.80	1.53	1.53
109	8.00	1.53	1.53
110	8.20	1.53	1.53
111	8.40	1.53	1.53
112	8.60	1.53	1.53
113	8.80	1.53	1.53
114	9.00	1.53	1.53
115	9.20	1.53	1.53
116	9.40	1.53	1.53
117	9.60	1.52	1.52
118	9.80	1.52	1.52
119	10.00	1.52	1.52
120	12.00	1.51	1.51
121	14.00	1.50	1.50
122	16.00	1.50	1.50
123	18.00	1.49	1.49
124	20.00	1.48	1.48
125	22.00	1.48	1.48
126	24.00	1.47	1.47
127	26.00	1.46	1.46
128	28.00	1.45	1.45
129	30.00	1.44	1.44
130	32.00	1.44	1.44
131	34.00	1.43	1.43
132	36.00	1.43	1.43
133	38.00	1.42	1.42
134	40.00	1.41	1.41
135	42.00	1.41	1.41
136	44.00	1.40	1.40
137	46.00	1.39	1.39
138	48.00	1.39	1.39
139	50.00	1.38	1.38
140	52.00	1.37	1.37
141	54.00	1.37	1.37
142	56.00	1.36	1.36
143	58.00	1.35	1.35
144	60.00	1.35	1.35
145	62.00	1.34	1.34
146	64.00	1.33	1.33
147	66.00	1.33	1.33
148	68.00	1.32	1.32
149	70.00	1.32	1.32
150	72.00	1.31	1.31

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Project:

Evaluated by:

Date: 11.05.1997

Slug Test No.

Test conducted on:

MW-POLA-117A

Static water level: 0.00 ft below datum

	Pumping test duration [min]	Water level [ft]	Change in Waterlevel [ft]
151	74.00	1.30	1.30
152	76.00	1.30	1.30
153	78.00	1.29	1.29
154	80.00	1.28	1.28
155	82.00	1.28	1.28
156	84.00	1.27	1.27
157	86.00	1.27	1.27
158	88.00	1.26	1.26
159	90.00	1.25	1.25
160	92.00	1.25	1.25
161	94.00	1.24	1.24
162	96.00	1.24	1.24
163	98.00	1.23	1.23
164	100.00	1.23	1.23
165	104.00	1.21	1.21
166	108.00	1.20	1.20
167	112.00	1.19	1.19
168	116.00	1.18	1.18
169	120.00	1.17	1.17
170	124.00	1.16	1.16
171	128.00	1.15	1.15
172	132.00	1.14	1.14
173	136.00	1.13	1.13
174	140.00	1.12	1.12
175	144.00	1.11	1.11
176	148.00	1.10	1.10
177	152.00	1.09	1.09
178	156.00	1.08	1.08
179	160.00	1.07	1.07
180	164.00	1.06	1.06
181	168.00	1.05	1.05
182	172.00	1.04	1.04
183	176.00	1.03	1.03
184	180.00	1.02	1.02
185	184.00	1.01	1.01
186	188.00	1.00	1.00
187	192.00	0.99	0.99
188	196.00	0.98	0.98
189	200.00	0.98	0.98
190	204.00	0.97	0.97
191	208.00	0.96	0.96
192	212.00	0.95	0.95
193	216.00	0.94	0.94
194	220.00	0.93	0.93
195	224.00	0.92	0.92
196	228.00	0.91	0.91
197	232.00	0.90	0.90
198	236.00	0.90	0.90
199	240.00	0.89	0.89
200	244.00	0.88	0.88

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Project:

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Slug Test No.

Test conducted on:

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Static water level: 0.00 ft below datum

	Pumping test duration [min]	Water level [ft]	Change in Waterlevel [ft]
201	248.00	0.87	0.87
202	252.00	0.87	0.87
203	256.00	0.86	0.86
204	260.00	0.85	0.85
205	264.00	0.85	0.85
206	268.00	0.84	0.84
207	272.00	0.83	0.83
208	276.00	0.82	0.82
209	280.00	0.82	0.82
210	284.00	0.81	0.81
211	288.00	0.80	0.80
212	292.00	0.79	0.79
213	296.00	0.78	0.78
214	300.00	0.78	0.78
215	304.00	0.77	0.77
216	308.00	0.76	0.76
217	312.00	0.76	0.76
218	316.00	0.75	0.75
219	320.00	0.74	0.74
220	324.00	0.74	0.74
221	328.00	0.73	0.73
222	332.00	0.72	0.72
223	336.00	0.71	0.71
224	340.00	0.71	0.71
225	344.00	0.70	0.70
226	348.00	0.70	0.70
227	352.00	0.69	0.69
228	356.00	0.68	0.68
229	360.00	0.68	0.68
230	364.00	0.67	0.67
231	368.00	0.67	0.67
232	372.00	0.66	0.66
233	376.00	0.65	0.65
234	380.00	0.65	0.65
235	384.00	0.64	0.64
236	388.00	0.64	0.64
237	392.00	0.63	0.63
238	396.00	0.62	0.62
239	400.00	0.62	0.62
240	404.00	0.61	0.61
241	408.00	0.61	0.61
242	412.00	0.60	0.60
243	416.00	0.59	0.59
244	420.00	0.59	0.59
245	424.00	0.58	0.58
246	428.00	0.58	0.58
247	432.00	0.57	0.57
248	436.00	0.57	0.57
249	440.00	0.56	0.56
250	444.00	0.56	0.56

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Slug Test No.

Test conducted on:

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Static water level: 0.00 ft below datum

	Pumping test duration [min]	Water level [ft]	Change in Waterlevel [ft]	
251	448.00	0.55	0.55	
252	452.00	0.55	0.55	
253	456.00	0.54	0.54	
254	460.00	0.54	0.54	
255	464.00	0.53	0.53	
256	468.00	0.53	0.53	
257	472.00	0.52	0.52	
258	476.00	0.51	0.51	
259	480.00	0.51	0.51	
260	484.00	0.51	0.51	
261	488.00	0.50	0.50	
262	492.00	0.49	0.49	
263	496.00	0.49	0.49	
264	500.00	0.49	0.49	
265	504.00	0.48	0.48	
266	508.00	0.48	0.48	
267	512.00	0.47	0.47	
268	516.00	0.47	0.47	
269	520.00	0.46	0.46	
270	524.00	0.46	0.46	
271	528.00	0.45	0.45	
272	532.00	0.45	0.45	
273	536.00	0.45	0.45	
274	540.00	0.44	0.44	
275	544.00	0.44	0.44	
276	548.00	0.43	0.43	
277	552.00	0.43	0.43	
278	556.00	0.43	0.43	
279	560.00	0.42	0.42	
280	564.00	0.42	0.42	
281	568.00	0.41	0.41	
282	572.00	0.41	0.41	
283	576.00	0.41	0.41	
284	580.00	0.40	0.40	
285	584.00	0.40	0.40	
286	588.00	0.39	0.39	
287	592.00	0.39	0.39	
288	596.00	0.39	0.39	
289	600.00	0.38	0.38	
290	604.00	0.38	0.38	
291	608.00	0.38	0.38	
292	612.00	0.37	0.37	
293	616.00	0.37	0.37	
294	620.00	0.37	0.37	
295	624.00	0.36	0.36	
296	628.00	0.36	0.36	
297	632.00	0.36	0.36	
298	636.00	0.35	0.35	
299	640.00	0.35	0.35	
300	644.00	0.34	0.34	

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Project:

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Date: 11.05.1997

Slug Test No.

Test conducted on:

MW-POLA-117A

Static water level: 0.00 ft below datum

	Pumping test duration [min]	Water level [ft]	Change in Waterlevel [ft]
301	648.00	0.34	0.34
302	652.00	0.34	0.34
303	656.00	0.34	0.34
304	660.00	0.33	0.33
305	664.00	0.33	0.33
306	668.00	0.33	0.33
307	672.00	0.32	0.32
308	676.00	0.32	0.32
309	680.00	0.31	0.31
310	684.00	0.31	0.31
311	688.00	0.31	0.31
312	692.00	0.31	0.31
313	696.00	0.30	0.30
314	700.00	0.30	0.30
315	704.00	0.30	0.30
316	708.00	0.30	0.30
317	712.00	0.29	0.29
318	716.00	0.29	0.29
319	720.00	0.29	0.29
320	724.00	0.28	0.28
321	728.00	0.28	0.28
322	732.00	0.28	0.28
323	736.00	0.27	0.27
324	740.00	0.27	0.27
325	744.00	0.27	0.27
326	748.00	0.26	0.26
327	752.00	0.26	0.26
328	756.00	0.26	0.26
329	760.00	0.25	0.25
330	764.00	0.25	0.25
331	768.00	0.25	0.25
332	772.00	0.24	0.24
333	776.00	0.24	0.24
334	780.00	0.24	0.24
335	784.00	0.24	0.24
336	788.00	0.23	0.23
337	792.00	0.23	0.23
338	796.00	0.23	0.23
339	800.00	0.23	0.23
340	804.00	0.22	0.22
341	808.00	0.22	0.22
342	812.00	0.22	0.22
343	816.00	0.22	0.22
344	820.00	0.22	0.22
345	824.00	0.21	0.21
346	828.00	0.21	0.21
347	832.00	0.21	0.21
348	836.00	0.21	0.21
349	840.00	0.21	0.21
350	844.00	0.20	0.20

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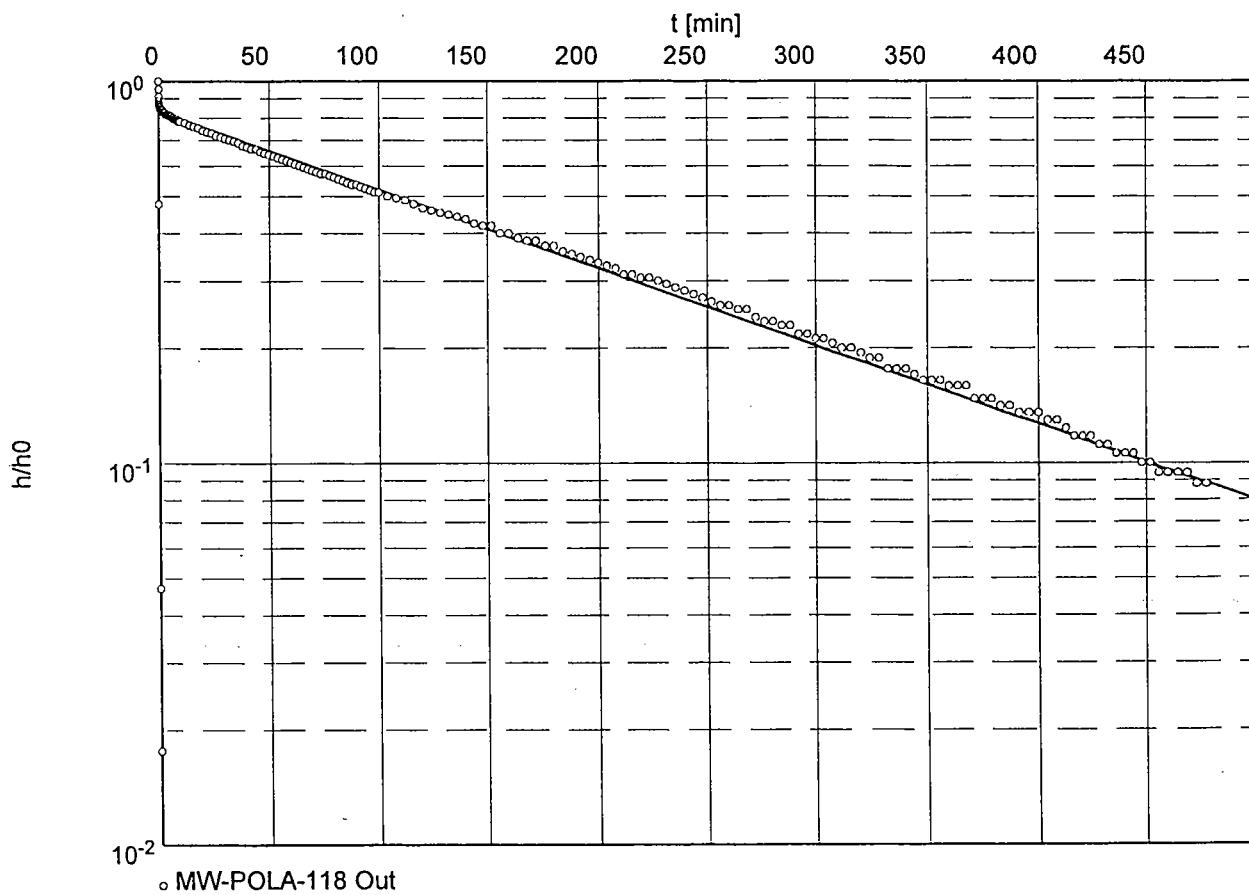
Project:

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Date: 11.05.1997

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Hydraulic conductivity [ft/min]: 1.86×10^{-5}

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Project:

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Date: 11.05.1997

Slug Test No.

Test conducted on:

MW-POLA-118 Out

Static water level: 0.00 ft below datum

	Pumping test duration [min]	Water level [ft]	Change in Waterlevel [ft]	
1	0.00	1.70	1.70	
2	0.03	0.03	0.03	
3	0.04	-0.08	-0.08	
4	0.05	0.81	0.81	
5	0.06	1.74	1.74	
6	0.07	1.85	1.85	
7	0.08	1.71	1.71	
8	0.09	1.62	1.62	
9	0.10	1.55	1.55	
10	0.11	1.51	1.51	
11	0.12	1.49	1.49	
12	0.13	1.48	1.48	
13	0.14	1.47	1.47	
14	0.15	1.47	1.47	
15	0.16	1.47	1.47	
16	0.17	1.47	1.47	
17	0.18	1.47	1.47	
18	0.19	1.47	1.47	
19	0.20	1.47	1.47	
20	0.21	1.47	1.47	
21	0.22	1.47	1.47	
22	0.23	1.47	1.47	
23	0.24	1.47	1.47	
24	0.25	1.47	1.47	
25	0.26	1.47	1.47	
26	0.27	1.47	1.47	
27	0.28	1.47	1.47	
28	0.29	1.47	1.47	
29	0.30	1.47	1.47	
30	0.31	1.47	1.47	
31	0.32	1.47	1.47	
32	0.33	1.47	1.47	
33	0.35	1.47	1.47	
34	0.37	1.47	1.47	
35	0.38	1.47	1.47	
36	0.40	1.47	1.47	
37	0.42	1.47	1.47	
38	0.43	1.46	1.46	
39	0.45	1.46	1.46	
40	0.47	1.46	1.46	
41	0.48	1.46	1.46	
42	0.50	1.46	1.46	
43	0.52	1.46	1.46	
44	0.53	1.46	1.46	
45	0.55	1.45	1.45	
46	0.57	1.45	1.45	
47	0.58	1.45	1.45	
48	0.60	1.45	1.45	
49	0.62	1.45	1.45	
50	0.63	1.45	1.45	

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Date: 11.05.1997

Slug Test No.

Test conducted on:

MW-POLA-118 Out

Static water level: 0.00 ft below datum

	Pumping test duration [min]	Water level [ft]	Change in Waterlevel [ft]
51	0.65	1.45	1.45
52	0.67	1.45	1.45
53	0.68	1.45	1.45
54	0.70	1.45	1.45
55	0.72	1.45	1.45
56	0.73	1.45	1.45
57	0.75	1.45	1.45
58	0.77	1.45	1.45
59	0.78	1.44	1.44
60	0.80	1.44	1.44
61	0.82	1.44	1.44
62	0.83	1.44	1.44
63	0.85	1.44	1.44
64	0.87	1.44	1.44
65	0.88	1.44	1.44
66	0.90	1.44	1.44
67	0.92	1.44	1.44
68	0.93	1.44	1.44
69	0.95	1.44	1.44
70	0.97	1.44	1.44
71	0.98	1.44	1.44
72	1.00	1.44	1.44
73	1.20	1.43	1.43
74	1.40	1.43	1.43
75	1.60	1.42	1.42
76	1.80	1.42	1.42
77	2.00	1.42	1.42
78	2.20	1.41	1.41
79	2.40	1.41	1.41
80	2.60	1.41	1.41
81	2.80	1.40	1.40
82	3.00	1.40	1.40
83	3.20	1.40	1.40
84	3.40	1.39	1.39
85	3.60	1.39	1.39
86	3.80	1.39	1.39
87	4.00	1.39	1.39
88	4.20	1.39	1.39
89	4.40	1.39	1.39
90	4.60	1.38	1.38
91	4.80	1.38	1.38
92	5.00	1.38	1.38
93	5.20	1.38	1.38
94	5.40	1.37	1.37
95	5.60	1.37	1.37
96	5.80	1.37	1.37
97	6.00	1.37	1.37
98	6.20	1.36	1.36
99	6.40	1.36	1.36
100	6.60	1.36	1.36

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Slug Test No.

Test conducted on:

MW-POLA-118 Out

Static water level: 0.00 ft below datum

	Pumping test duration [min]	Water level [ft]	Change in Waterlevel [ft]	
101	6.80	1.36	1.36	
102	7.00	1.35	1.35	
103	7.20	1.35	1.35	
104	7.40	1.35	1.35	
105	7.60	1.35	1.35	
106	7.80	1.35	1.35	
107	8.00	1.35	1.35	
108	8.20	1.35	1.35	
109	8.40	1.34	1.34	
110	8.60	1.34	1.34	
111	8.80	1.34	1.34	
112	9.00	1.34	1.34	
113	9.20	1.34	1.34	
114	9.40	1.33	1.33	
115	9.60	1.33	1.33	
116	9.80	1.33	1.33	
117	10.00	1.33	1.33	
118	12.00	1.32	1.32	
119	14.00	1.30	1.30	
120	16.00	1.29	1.29	
121	18.00	1.28	1.28	
122	20.00	1.26	1.26	
123	22.00	1.25	1.25	
124	24.00	1.24	1.24	
125	26.00	1.22	1.22	
126	28.00	1.21	1.21	
127	30.00	1.20	1.20	
128	32.00	1.19	1.19	
129	34.00	1.18	1.18	
130	36.00	1.17	1.17	
131	38.00	1.15	1.15	
132	40.00	1.14	1.14	
133	42.00	1.13	1.13	
134	44.00	1.13	1.13	
135	46.00	1.11	1.11	
136	48.00	1.10	1.10	
137	50.00	1.09	1.09	
138	52.00	1.08	1.08	
139	54.00	1.07	1.07	
140	56.00	1.06	1.06	
141	58.00	1.05	1.05	
142	60.00	1.04	1.04	
143	62.00	1.03	1.03	
144	64.00	1.02	1.02	
145	66.00	1.01	1.01	
146	68.00	1.00	1.00	
147	70.00	0.99	0.99	
148	72.00	0.98	0.98	
149	74.00	0.97	0.97	
150	76.00	0.97	0.97	

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Slug Test No.

Test conducted on:

MW-POLA-118 Out

Static water level: 0.00 ft below datum

	Pumping test duration [min]	Water level [ft]	Change in Waterlevel [ft]
151	78.00	0.96	0.96
152	80.00	0.95	0.95
153	82.00	0.94	0.94
154	84.00	0.93	0.93
155	86.00	0.92	0.92
156	88.00	0.91	0.91
157	90.00	0.91	0.91
158	92.00	0.90	0.90
159	94.00	0.89	0.89
160	96.00	0.88	0.88
161	98.00	0.87	0.87
162	100.00	0.87	0.87
163	104.00	0.85	0.85
164	108.00	0.84	0.84
165	112.00	0.83	0.83
166	116.00	0.81	0.81
167	120.00	0.79	0.79
168	124.00	0.78	0.78
169	128.00	0.77	0.77
170	132.00	0.76	0.76
171	136.00	0.75	0.75
172	140.00	0.74	0.74
173	144.00	0.72	0.72
174	148.00	0.71	0.71
175	152.00	0.71	0.71
176	156.00	0.68	0.68
177	160.00	0.68	0.68
178	164.00	0.66	0.66
179	168.00	0.65	0.65
180	172.00	0.65	0.65
181	176.00	0.63	0.63
182	180.00	0.63	0.63
183	184.00	0.61	0.61
184	188.00	0.60	0.60
185	192.00	0.59	0.59
186	196.00	0.58	0.58
187	200.00	0.57	0.57
188	204.00	0.56	0.56
189	208.00	0.55	0.55
190	212.00	0.53	0.53
191	216.00	0.53	0.53
192	220.00	0.52	0.52
193	224.00	0.52	0.52
194	228.00	0.51	0.51
195	232.00	0.50	0.50
196	236.00	0.49	0.49
197	240.00	0.48	0.48
198	244.00	0.47	0.47
199	248.00	0.46	0.46
200	252.00	0.45	0.45

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Date: 11.05.1997

Slug Test No.

Test conducted on:

MW-POLA-118 Out

Static water level: 0.00 ft below datum

	Pumping test duration [min]	Water level [ft]	Change in Waterlevel [ft]
201	256.00	0.44	0.44
202	260.00	0.44	0.44
203	264.00	0.43	0.43
204	268.00	0.43	0.43
205	272.00	0.41	0.41
206	276.00	0.40	0.40
207	280.00	0.40	0.40
208	284.00	0.39	0.39
209	288.00	0.39	0.39
210	292.00	0.37	0.37
211	296.00	0.37	0.37
212	300.00	0.36	0.36
213	304.00	0.36	0.36
214	308.00	0.35	0.35
215	312.00	0.34	0.34
216	316.00	0.34	0.34
217	320.00	0.33	0.33
218	324.00	0.32	0.32
219	328.00	0.32	0.32
220	332.00	0.30	0.30
221	336.00	0.30	0.30
222	340.00	0.30	0.30
223	344.00	0.29	0.29
224	348.00	0.28	0.28
225	352.00	0.28	0.28
226	356.00	0.28	0.28
227	360.00	0.27	0.27
228	364.00	0.27	0.27
229	368.00	0.27	0.27
230	372.00	0.25	0.25
231	376.00	0.25	0.25
232	380.00	0.25	0.25
233	384.00	0.24	0.24
234	388.00	0.24	0.24
235	392.00	0.23	0.23
236	396.00	0.23	0.23
237	400.00	0.23	0.23
238	404.00	0.22	0.22
239	408.00	0.22	0.22
240	412.00	0.21	0.21
241	416.00	0.20	0.20
242	420.00	0.20	0.20
243	424.00	0.20	0.20
244	428.00	0.19	0.19
245	432.00	0.19	0.19
246	436.00	0.18	0.18
247	440.00	0.18	0.18
248	444.00	0.18	0.18
249	448.00	0.17	0.17
250	452.00	0.17	0.17

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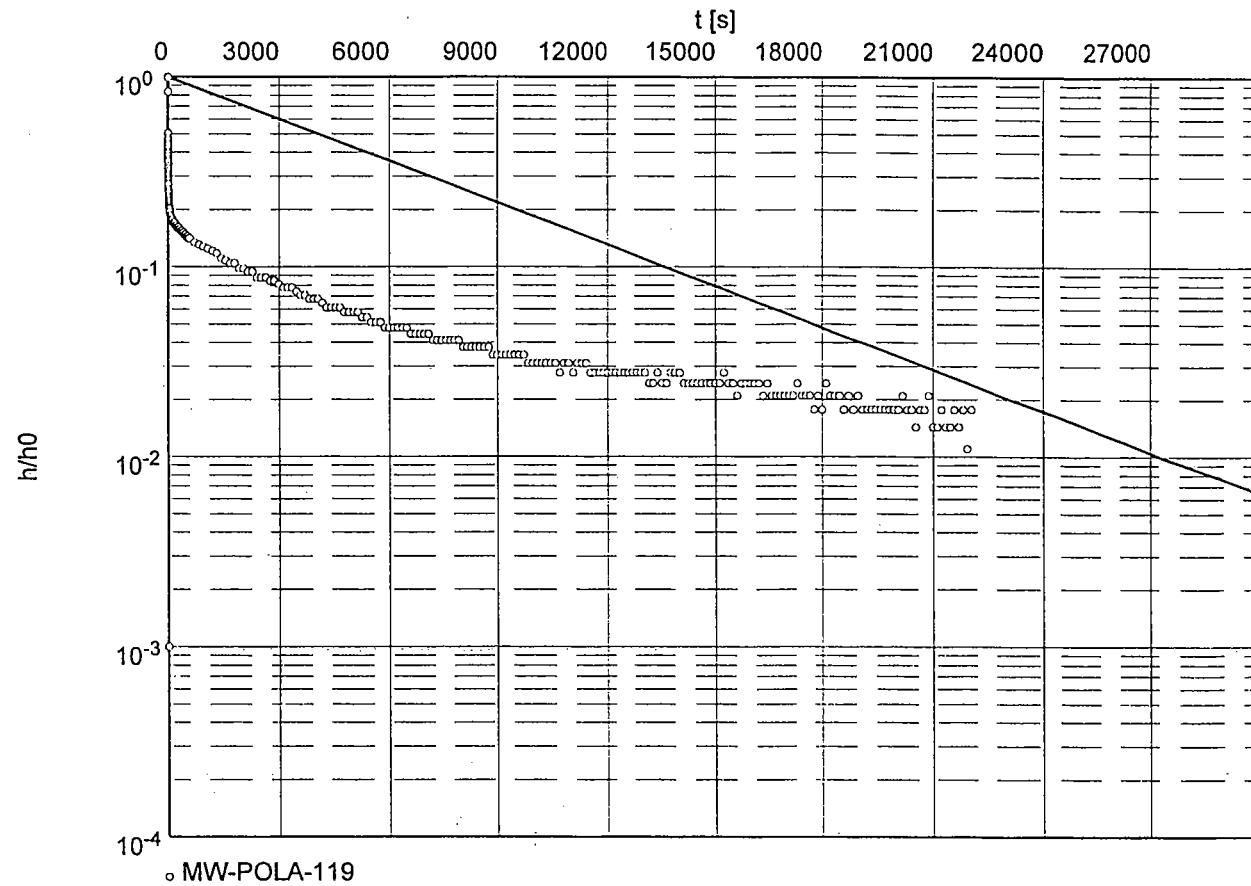
Project: Hamilton BRAC

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Test conducted on: 5/5/97

MW-POLA-119



Hydraulic conductivity [cm/s]: 5.30×10^{-8}

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Slug Test No. SLUG IN

Test conducted on: 5/5/97

MW-POLA-119

MW-POLA-119

Static water level: 299.2 cm below datum

	Pumping test duration [s]	Water level [cm]	Drawdown [cm]	
1	0	390.8	91.5	
2	1	299.3	0.1	
3	1	299.3	0.1	
4	2	299.3	0.1	
5	2	299.3	0.1	
6	3	299.3	0.1	
7	4	299.3	0.1	
8	4	299.3	0.1	
9	5	299.3	0.1	
10	5	375.5	76.3	
11	6	389.5	90.3	
12	7	340.5	41.2	
13	7	345.3	46.1	
14	8	342.6	43.4	
15	8	341.4	42.2	
16	9	340.2	40.9	
17	10	338.9	39.7	
18	10	337.4	38.2	
19	11	336.2	37.0	
20	11	335.3	36.1	
21	12	334.1	34.8	
22	13	332.8	33.6	
23	13	331.9	32.7	
24	14	331.0	31.8	
25	14	330.1	30.9	
26	15	329.2	30.0	
27	16	328.3	29.0	
28	16	327.4	28.1	
29	17	326.7	27.5	
30	17	326.1	26.9	
31	18	325.5	26.3	
32	19	324.9	25.7	
33	19	324.3	25.1	
34	20	324.0	24.8	
35	21	322.8	23.6	
36	22	322.2	23.0	
37	23	321.6	22.3	
38	24	321.0	21.7	
39	25	320.6	21.4	
40	26	320.3	21.1	
41	27	320.0	20.8	
42	28	320.0	20.8	
43	29	319.7	20.5	
44	30	319.4	20.2	
45	31	319.4	20.2	
46	32	319.1	19.9	
47	33	318.8	19.6	
48	34	318.8	19.6	
49	35	318.8	19.6	
50	36	318.5	19.3	

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Static water level: 299.2 cm below datum

	Pumping test duration [s]	Water level [cm]	Drawdown [cm]	
51	37	318.5	19.3	
52	38	318.5	19.3	
53	39	318.2	19.0	
54	40	318.2	19.0	
55	41	318.2	19.0	
56	42	317.9	18.7	
57	43	317.9	18.7	
58	44	317.9	18.7	
59	45	317.9	18.7	
60	46	317.6	18.4	
61	47	317.6	18.4	
62	48	317.6	18.4	
63	49	317.6	18.4	
64	50	317.3	18.1	
65	51	317.3	18.1	
66	52	317.3	18.1	
67	53	317.3	18.1	
68	54	317.3	18.1	
69	55	317.3	18.1	
70	56	317.0	17.8	
71	57	317.0	17.8	
72	58	317.0	17.8	
73	59	317.0	17.8	
74	60	317.0	17.8	
75	72	316.4	17.2	
76	84	316.1	16.9	
77	96	315.8	16.6	
78	108	315.5	16.2	
79	120	315.5	16.2	
80	132	315.5	16.2	
81	144	315.2	15.9	
82	156	314.9	15.6	
83	168	314.9	15.6	
84	180	314.9	15.6	
85	192	314.6	15.3	
86	204	314.6	15.3	
87	216	314.2	15.0	
88	228	314.2	15.0	
89	240	314.2	15.0	
90	252	313.9	14.7	
91	264	313.9	14.7	
92	276	313.9	14.7	
93	288	313.9	14.7	
94	300	313.6	14.4	
95	312	313.6	14.4	
96	324	313.6	14.4	
97	336	313.6	14.4	
98	348	313.3	14.1	
99	360	313.3	14.1	
100	372	313.3	14.1	

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Static water level: 299.2 cm below datum

	Pumping test duration [s]	Water level [cm]	Drawdown [cm]	
101	384	313.3	14.1	
102	396	313.0	13.8	
103	408	313.0	13.8	
104	420	313.0	13.8	
105	432	313.0	13.8	
106	444	312.7	13.5	
107	456	312.7	13.5	
108	468	312.7	13.5	
109	480	312.7	13.5	
110	492	312.4	13.2	
111	504	312.4	13.2	
112	516	312.4	13.2	
113	528	312.4	13.2	
114	540	312.4	13.2	
115	552	312.1	12.9	
116	564	312.1	12.9	
117	576	312.1	12.9	
118	588	312.1	12.9	
119	600	312.1	12.9	
120	720	311.5	12.3	
121	840	311.2	12.0	
122	960	310.9	11.7	
123	1080	310.6	11.4	
124	1200	310.3	11.1	
125	1320	310.0	10.8	
126	1440	309.4	10.1	
127	1560	309.1	9.8	
128	1680	308.8	9.5	
129	1800	308.8	9.5	
130	1920	308.2	8.9	
131	2040	308.2	8.9	
132	2160	307.8	8.6	
133	2280	307.8	8.6	
134	2400	307.2	8.0	
135	2520	307.2	8.0	
136	2640	307.2	8.0	
137	2760	306.9	7.7	
138	2880	306.9	7.7	
139	3000	306.6	7.4	
140	3120	306.3	7.1	
141	3240	306.3	7.1	
142	3360	306.3	7.1	
143	3480	306.0	6.8	
144	3600	305.7	6.5	
145	3720	305.7	6.5	
146	3840	305.4	6.2	
147	3960	305.4	6.2	
148	4080	305.4	6.2	
149	4200	305.1	5.9	
150	4320	304.8	5.6	

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Static water level: 299.2 cm below datum

	Pumping test duration [s]	Water level [cm]	Drawdown [cm]	
151	4440	304.8	5.6	
152	4560	304.8	5.6	
153	4680	304.8	5.6	
154	4800	304.5	5.3	
155	4920	304.5	5.3	
156	5040	304.5	5.3	
157	5160	304.5	5.3	
158	5280	304.2	5.0	
159	5400	304.2	5.0	
160	5520	303.9	4.7	
161	5640	303.9	4.7	
162	5760	303.9	4.7	
163	5880	303.6	4.4	
164	6000	303.6	4.4	
165	6120	303.6	4.4	
166	6240	303.6	4.4	
167	6360	303.6	4.4	
168	6480	303.6	4.4	
169	6600	303.3	4.1	
170	6720	303.3	4.1	
171	6840	303.3	4.1	
172	6960	303.3	4.1	
173	7080	303.3	4.1	
174	7200	303.0	3.7	
175	7320	303.0	3.7	
176	7440	303.0	3.7	
177	7560	303.0	3.7	
178	7680	303.0	3.7	
179	7800	303.0	3.7	
180	7920	303.0	3.7	
181	8040	302.7	3.4	
182	8160	302.7	3.4	
183	8280	302.7	3.4	
184	8400	302.7	3.4	
185	8520	302.7	3.4	
186	8640	302.7	3.4	
187	8760	302.7	3.4	
188	8880	302.4	3.1	
189	9000	302.4	3.1	
190	9120	302.4	3.1	
191	9240	302.4	3.1	
192	9360	302.4	3.1	
193	9480	302.4	3.1	
194	9600	302.4	3.1	
195	9720	302.4	3.1	
196	9840	302.1	2.8	
197	9960	302.1	2.8	
198	10080	302.1	2.8	
199	10200	302.1	2.8	
200	10320	302.1	2.8	

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Slug Test No. SLUG IN

Test conducted on: 5/5/97

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Static water level: 299.2 cm below datum

	Pumping test duration [s]	Water level [cm]	Drawdown [cm]	
201	10440	302.1	2.8	
202	10560	302.1	2.8	
203	10680	301.8	2.5	
204	10800	302.1	2.8	
205	10920	302.1	2.8	
206	11040	301.8	2.5	
207	11160	302.1	2.8	
208	11280	302.1	2.8	
209	11400	302.1	2.8	
210	11520	301.8	2.5	
211	11640	301.8	2.5	
212	11760	301.8	2.5	
213	11880	301.8	2.5	
214	12000	301.8	2.5	
215	12120	301.8	2.5	
216	12240	301.8	2.5	
217	12360	301.8	2.5	
218	12480	301.8	2.5	
219	12600	301.8	2.5	
220	12720	301.8	2.5	
221	12840	301.8	2.5	
222	12960	301.8	2.5	
223	13080	301.8	2.5	
224	13200	301.4	2.2	
225	13320	301.4	2.2	
226	13440	301.8	2.5	
227	13560	301.4	2.2	
228	13680	301.4	2.2	
229	13800	301.8	2.5	
230	13920	301.8	2.5	
231	14040	301.8	2.5	
232	14160	301.4	2.2	
233	14280	301.4	2.2	
234	14400	301.4	2.2	
235	14520	301.4	2.2	
236	14640	301.4	2.2	
237	14760	301.4	2.2	
238	14880	301.4	2.2	
239	15000	301.4	2.2	
240	15120	301.4	2.2	
241	15240	301.8	2.5	
242	15360	301.4	2.2	
243	15480	301.4	2.2	
244	15600	301.1	1.9	
245	15720	301.4	2.2	
246	15840	301.4	2.2	
247	15960	301.4	2.2	
248	16080	301.4	2.2	
249	16200	301.4	2.2	
250	16320	301.1	1.9	

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Slug Test No. SLUG IN

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Static water level: 299.2 cm below datum

	Pumping test duration [s]	Water level [cm]	Drawdown [cm]	
251	16440	301.4	2.2	
252	16560	301.1	1.9	
253	16680	301.1	1.9	
254	16800	301.1	1.9	
255	16920	301.1	1.9	
256	17040	301.1	1.9	
257	17160	301.1	1.9	
258	17280	301.4	2.2	
259	17400	301.1	1.9	
260	17520	301.1	1.9	
261	17640	301.1	1.9	
262	17760	300.8	1.6	
263	17880	301.1	1.9	
264	18000	300.8	1.6	
265	18120	301.4	2.2	
266	18240	301.1	1.9	
267	18360	301.1	1.9	
268	18480	301.1	1.9	
269	18600	300.8	1.6	
270	18720	301.1	1.9	
271	18840	300.8	1.6	
272	18960	301.1	1.9	
273	19080	300.8	1.6	
274	19200	300.8	1.6	
275	19320	300.8	1.6	
276	19440	300.8	1.6	
277	19560	300.8	1.6	
278	19680	300.8	1.6	
279	19800	300.8	1.6	
280	19920	300.8	1.6	
281	20040	300.8	1.6	
282	20160	301.1	1.9	
283	20280	300.8	1.6	
284	20400	300.8	1.6	
285	20520	300.5	1.3	
286	20640	300.8	1.6	
287	20760	300.8	1.6	
288	20880	301.1	1.9	
289	21000	300.5	1.3	
290	21120	300.5	1.3	
291	21240	300.8	1.6	
292	21360	300.5	1.3	
293	21480	300.5	1.3	
294	21600	300.8	1.6	
295	21720	300.5	1.3	
296	21840	300.8	1.6	
297	21960	300.2	1.0	
298	22080	300.8	1.6	

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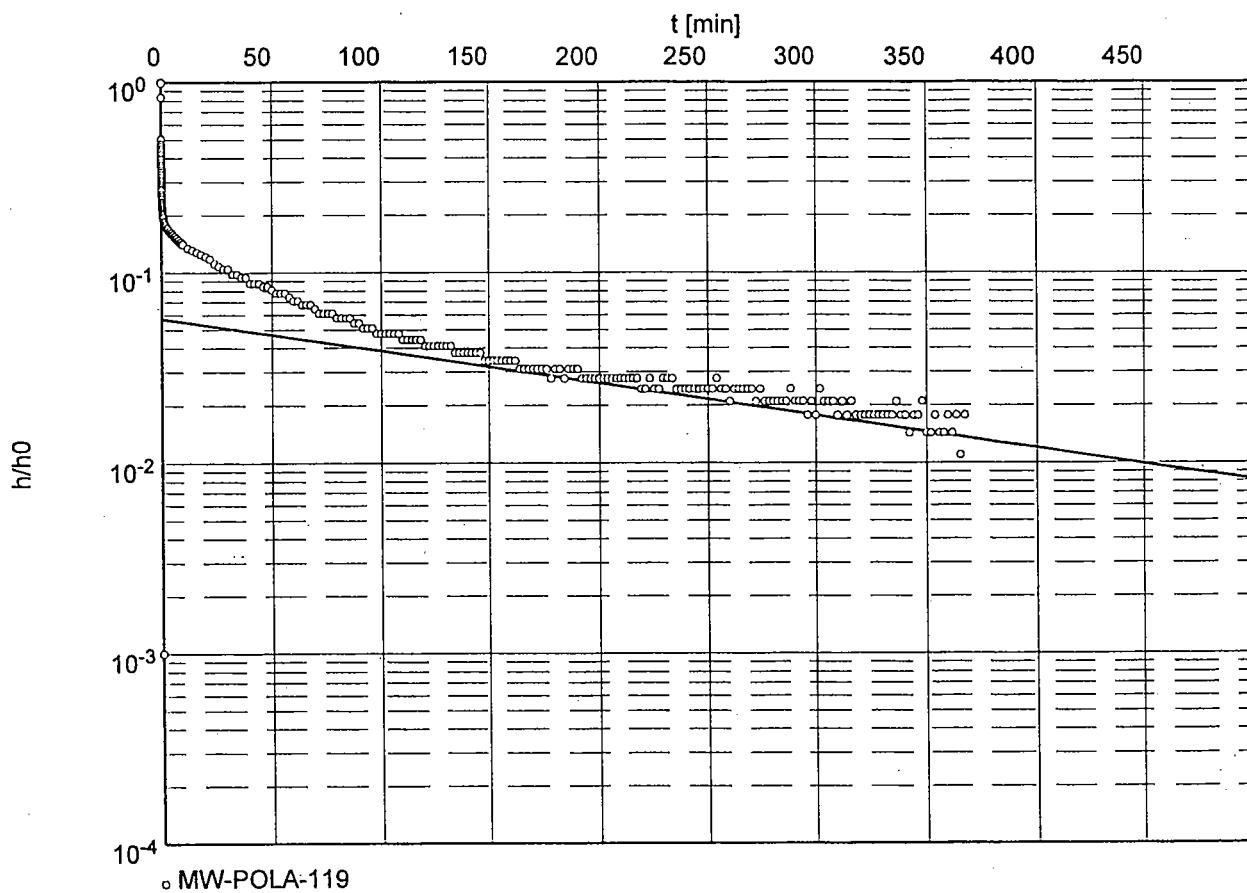
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Evaluated by: Date: 09.05.1997

Slug Test No.

Test conducted on:



Hydraulic conductivity [ft/min]: 1.93×10^{-5}

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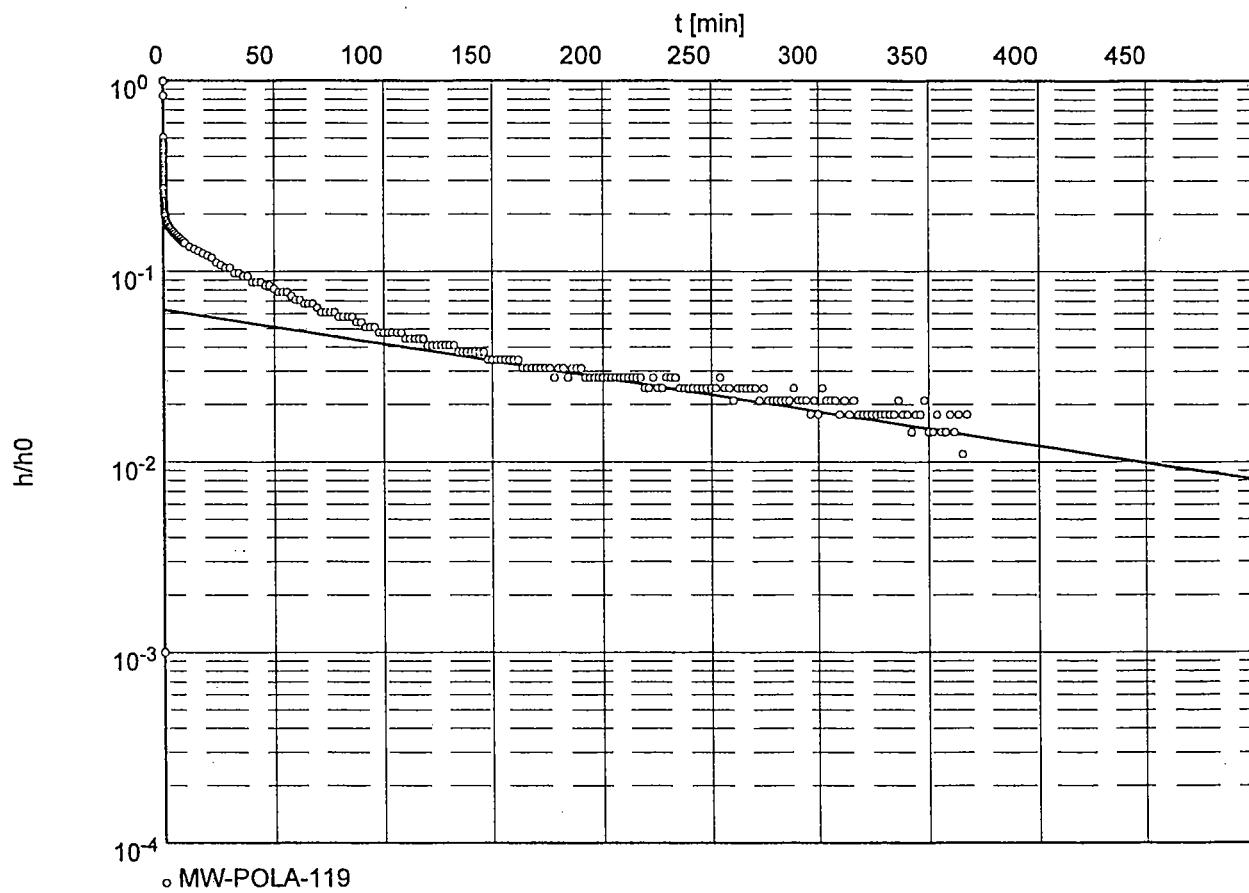
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Evaluated by: Date: 09.05.1997

Slug Test No.

Test conducted on:



Hydraulic conductivity [ft/min]: 1.52×10^{-5}

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Project: MW-POLA-119

Evaluated by: Date: 09.05.1997

Slug Test No.

Test conducted on:

MW-POLA-119

Static water level: 9.82 ft below datum

	Pumping test duration [min]	Water level [ft]	Drawdown [ft]	
1	0.00	12.82	3.00	
2	0.01	9.82	0.00	
3	0.02	9.82	0.00	
4	0.03	9.82	0.00	
5	0.04	9.82	0.00	
6	0.05	9.82	0.00	
7	0.06	9.82	0.00	
8	0.07	9.82	0.00	
9	0.08	9.82	0.00	
10	0.09	12.32	2.50	
11	0.10	12.78	2.96	
12	0.11	11.17	1.35	
13	0.12	11.33	1.51	
14	0.13	11.24	1.42	
15	0.14	11.20	1.38	
16	0.15	11.16	1.34	
17	0.16	11.12	1.30	
18	0.17	11.07	1.25	
19	0.18	11.03	1.21	
20	0.19	11.00	1.18	
21	0.20	10.96	1.14	
22	0.21	10.92	1.10	
23	0.22	10.89	1.07	
24	0.23	10.86	1.04	
25	0.24	10.83	1.01	
26	0.25	10.80	0.98	
27	0.26	10.77	0.95	
28	0.27	10.74	0.92	
29	0.28	10.72	0.90	
30	0.29	10.70	0.88	
31	0.30	10.68	0.86	
32	0.31	10.66	0.84	
33	0.32	10.64	0.82	
34	0.33	10.63	0.81	
35	0.35	10.59	0.77	
36	0.37	10.57	0.75	
37	0.38	10.55	0.73	
38	0.40	10.53	0.71	
39	0.42	10.52	0.70	
40	0.43	10.51	0.69	
41	0.45	10.50	0.68	
42	0.47	10.50	0.68	
43	0.48	10.49	0.67	
44	0.50	10.48	0.66	
45	0.52	10.48	0.66	
46	0.53	10.47	0.65	
47	0.55	10.46	0.64	
48	0.57	10.46	0.64	
49	0.58	10.46	0.64	
50	0.60	10.45	0.63	

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Project: MW-POLA-119

Evaluated by: Date: 09.05.1997

Slug Test No.

Test conducted on:

MW-POLA-119

Static water level: 9.82 ft below datum

	Pumping test duration [min]	Water level [ft]	Drawdown [ft]	
51	0.62	10.45	0.63	
52	0.63	10.45	0.63	
53	0.65	10.44	0.62	
54	0.67	10.44	0.62	
55	0.68	10.44	0.62	
56	0.70	10.43	0.61	
57	0.72	10.43	0.61	
58	0.73	10.43	0.61	
59	0.75	10.43	0.61	
60	0.77	10.42	0.60	
61	0.78	10.42	0.60	
62	0.80	10.42	0.60	
63	0.82	10.42	0.60	
64	0.83	10.41	0.59	
65	0.85	10.41	0.59	
66	0.87	10.41	0.59	
67	0.88	10.41	0.59	
68	0.90	10.41	0.59	
69	0.92	10.41	0.59	
70	0.93	10.40	0.58	
71	0.95	10.40	0.58	
72	0.97	10.40	0.58	
73	0.98	10.40	0.58	
74	1.00	10.40	0.58	
75	1.20	10.38	0.56	
76	1.40	10.37	0.55	
77	1.60	10.36	0.54	
78	1.80	10.35	0.53	
79	2.00	10.35	0.53	
80	2.20	10.35	0.53	
81	2.40	10.34	0.52	
82	2.60	10.33	0.51	
83	2.80	10.33	0.51	
84	3.00	10.33	0.51	
85	3.20	10.32	0.50	
86	3.40	10.32	0.50	
87	3.60	10.31	0.49	
88	3.80	10.31	0.49	
89	4.00	10.31	0.49	
90	4.20	10.30	0.48	
91	4.40	10.30	0.48	
92	4.60	10.30	0.48	
93	4.80	10.30	0.48	
94	5.00	10.29	0.47	
95	5.20	10.29	0.47	
96	5.40	10.29	0.47	
97	5.60	10.29	0.47	
98	5.80	10.28	0.46	
99	6.00	10.28	0.46	
100	6.20	10.28	0.46	

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Project: MW-POLA-119

Evaluated by: Date: 09.05.1997

Slug Test No.

Test conducted on:

MW-POLA-119

Static water level: 9.82 ft below datum

	Pumping test duration [min]	Water level [ft]	Drawdown [ft]	
101	6.40	10.28	0.46	
102	6.60	10.27	0.45	
103	6.80	10.27	0.45	
104	7.00	10.27	0.45	
105	7.20	10.27	0.45	
106	7.40	10.26	0.44	
107	7.60	10.26	0.44	
108	7.80	10.26	0.44	
109	8.00	10.26	0.44	
110	8.20	10.25	0.43	
111	8.40	10.25	0.43	
112	8.60	10.25	0.43	
113	8.80	10.25	0.43	
114	9.00	10.25	0.43	
115	9.20	10.24	0.42	
116	9.40	10.24	0.42	
117	9.60	10.24	0.42	
118	9.80	10.24	0.42	
119	10.00	10.24	0.42	
120	12.00	10.22	0.40	
121	14.00	10.21	0.39	
122	16.00	10.20	0.38	
123	18.00	10.19	0.37	
124	20.00	10.18	0.36	
125	22.00	10.17	0.35	
126	24.00	10.15	0.33	
127	26.00	10.14	0.32	
128	28.00	10.13	0.31	
129	30.00	10.13	0.31	
130	32.00	10.11	0.29	
131	34.00	10.11	0.29	
132	36.00	10.10	0.28	
133	38.00	10.10	0.28	
134	40.00	10.08	0.26	
135	42.00	10.08	0.26	
136	44.00	10.08	0.26	
137	46.00	10.07	0.25	
138	48.00	10.07	0.25	
139	50.00	10.06	0.24	
140	52.00	10.05	0.23	
141	54.00	10.05	0.23	
142	56.00	10.05	0.23	
143	58.00	10.04	0.22	
144	60.00	10.03	0.21	
145	62.00	10.03	0.21	
146	64.00	10.02	0.20	
147	66.00	10.02	0.20	
148	68.00	10.02	0.20	
149	70.00	10.01	0.19	
150	72.00	10.00	0.18	

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Project: MW-POLA-119

Evaluated by: Date: 09.05.1997

Slug Test No.

Test conducted on:

MW-POLA-119

Static water level: 9.82 ft below datum

	Pumping test duration [min]	Water level [ft]	Drawdown [ft]	
151	74.00	10.00	0.18	
152	76.00	10.00	0.18	
153	78.00	10.00	0.18	
154	80.00	9.99	0.17	
155	82.00	9.99	0.17	
156	84.00	9.99	0.17	
157	86.00	9.99	0.17	
158	88.00	9.98	0.16	
159	90.00	9.98	0.16	
160	92.00	9.97	0.15	
161	94.00	9.97	0.15	
162	96.00	9.97	0.15	
163	98.00	9.96	0.14	
164	100.00	9.96	0.14	
165	102.00	9.96	0.14	
166	104.00	9.96	0.14	
167	106.00	9.96	0.14	
168	108.00	9.96	0.14	
169	110.00	9.95	0.13	
170	112.00	9.95	0.13	
171	114.00	9.95	0.13	
172	116.00	9.95	0.13	
173	118.00	9.95	0.13	
174	120.00	9.94	0.12	
175	122.00	9.94	0.12	
176	124.00	9.94	0.12	
177	126.00	9.94	0.12	
178	128.00	9.94	0.12	
179	130.00	9.94	0.12	
180	132.00	9.94	0.12	
181	134.00	9.93	0.11	
182	136.00	9.93	0.11	
183	138.00	9.93	0.11	
184	140.00	9.93	0.11	
185	142.00	9.93	0.11	
186	144.00	9.93	0.11	
187	146.00	9.93	0.11	
188	148.00	9.92	0.10	
189	150.00	9.92	0.10	
190	152.00	9.92	0.10	
191	154.00	9.92	0.10	
192	156.00	9.92	0.10	
193	158.00	9.92	0.10	
194	160.00	9.92	0.10	
195	162.00	9.92	0.10	
196	164.00	9.91	0.09	
197	166.00	9.91	0.09	
198	168.00	9.91	0.09	
199	170.00	9.91	0.09	
200	172.00	9.91	0.09	

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Project: MW-POLA-119

Evaluated by: Date: 09.05.1997

Slug Test No.

Test conducted on:

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Static water level: 9.82 ft below datum

	Pumping test duration [min]	Water level [ft]	Drawdown [ft]	
201	174.00	9.91	0.09	
202	176.00	9.91	0.09	
203	178.00	9.90	0.08	
204	180.00	9.91	0.09	
205	182.00	9.91	0.09	
206	184.00	9.90	0.08	
207	186.00	9.91	0.09	
208	188.00	9.91	0.09	
209	190.00	9.91	0.09	
210	192.00	9.90	0.08	
211	194.00	9.90	0.08	
212	196.00	9.90	0.08	
213	198.00	9.90	0.08	
214	200.00	9.90	0.08	
215	202.00	9.90	0.08	
216	204.00	9.90	0.08	
217	206.00	9.90	0.08	
218	208.00	9.90	0.08	
219	210.00	9.90	0.08	
220	212.00	9.90	0.08	
221	214.00	9.90	0.08	
222	216.00	9.90	0.08	
223	218.00	9.90	0.08	
224	220.00	9.89	0.07	
225	222.00	9.89	0.07	
226	224.00	9.90	0.08	
227	226.00	9.89	0.07	
228	228.00	9.89	0.07	
229	230.00	9.90	0.08	
230	232.00	9.90	0.08	
231	234.00	9.90	0.08	
232	236.00	9.89	0.07	
233	238.00	9.89	0.07	
234	240.00	9.89	0.07	
235	242.00	9.89	0.07	
236	244.00	9.89	0.07	
237	246.00	9.89	0.07	
238	248.00	9.89	0.07	
239	250.00	9.89	0.07	
240	252.00	9.89	0.07	
241	254.00	9.90	0.08	
242	256.00	9.89	0.07	
243	258.00	9.89	0.07	
244	260.00	9.88	0.06	
245	262.00	9.89	0.07	
246	264.00	9.89	0.07	
247	266.00	9.89	0.07	
248	268.00	9.89	0.07	
249	270.00	9.89	0.07	
250	272.00	9.88	0.06	

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Project: MW-POLA-119

Evaluated by: Date: 09.05.1997

Slug Test No.

Test conducted on:

MW-POLA-119

Static water level: 9.82 ft below datum

	Pumping test duration [min]	Water level [ft]	Drawdown [ft]	
251	274.00	9.89	0.07	
252	276.00	9.88	0.06	
253	278.00	9.88	0.06	
254	280.00	9.88	0.06	
255	282.00	9.88	0.06	
256	284.00	9.88	0.06	
257	286.00	9.88	0.06	
258	288.00	9.89	0.07	
259	290.00	9.88	0.06	
260	292.00	9.88	0.06	
261	294.00	9.88	0.06	
262	296.00	9.87	0.05	
263	298.00	9.88	0.06	
264	300.00	9.87	0.05	
265	302.00	9.89	0.07	
266	304.00	9.88	0.06	
267	306.00	9.88	0.06	
268	308.00	9.88	0.06	
269	310.00	9.87	0.05	
270	312.00	9.88	0.06	
271	314.00	9.87	0.05	
272	316.00	9.88	0.06	
273	318.00	9.87	0.05	
274	320.00	9.87	0.05	
275	322.00	9.87	0.05	
276	324.00	9.87	0.05	
277	326.00	9.87	0.05	
278	328.00	9.87	0.05	
279	330.00	9.87	0.05	
280	332.00	9.87	0.05	
281	334.00	9.87	0.05	
282	336.00	9.88	0.06	
283	338.00	9.87	0.05	
284	340.00	9.87	0.05	
285	342.00	9.86	0.04	
286	344.00	9.87	0.05	
287	346.00	9.87	0.05	
288	348.00	9.88	0.06	
289	350.00	9.86	0.04	
290	352.00	9.86	0.04	
291	354.00	9.87	0.05	
292	356.00	9.86	0.04	
293	358.00	9.86	0.04	
294	360.00	9.87	0.05	
295	362.00	9.86	0.04	
296	364.00	9.87	0.05	
297	366.00	9.85	0.03	
298	368.00	9.87	0.05	

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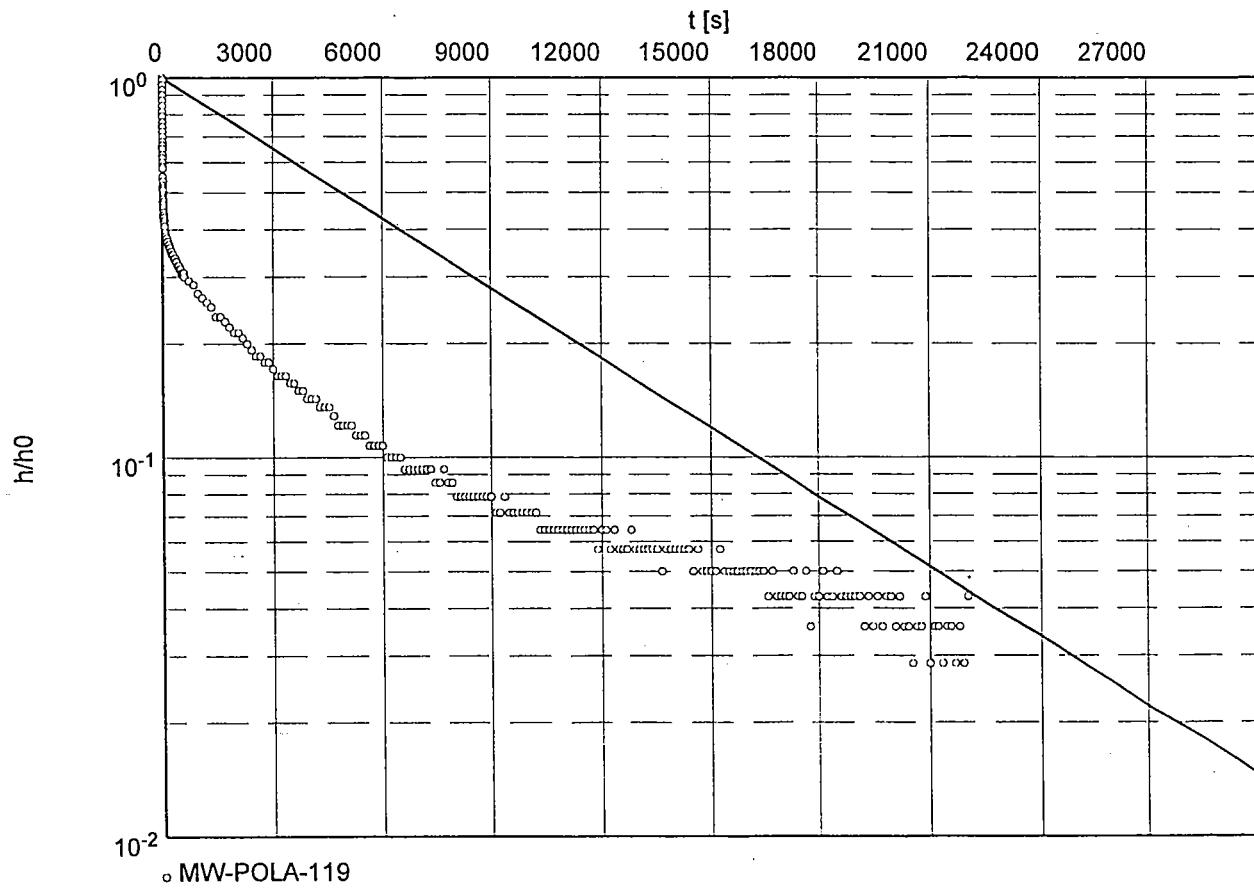
Project: HAMILTON BRAC

Evaluated by: P.L. Date: 5/11/97

Slug Test No. SLUG OUT

Test conducted on: 5/6/97

MW-POLA-119



Hydraulic conductivity [cm/s]: 1.16×10^{-5}

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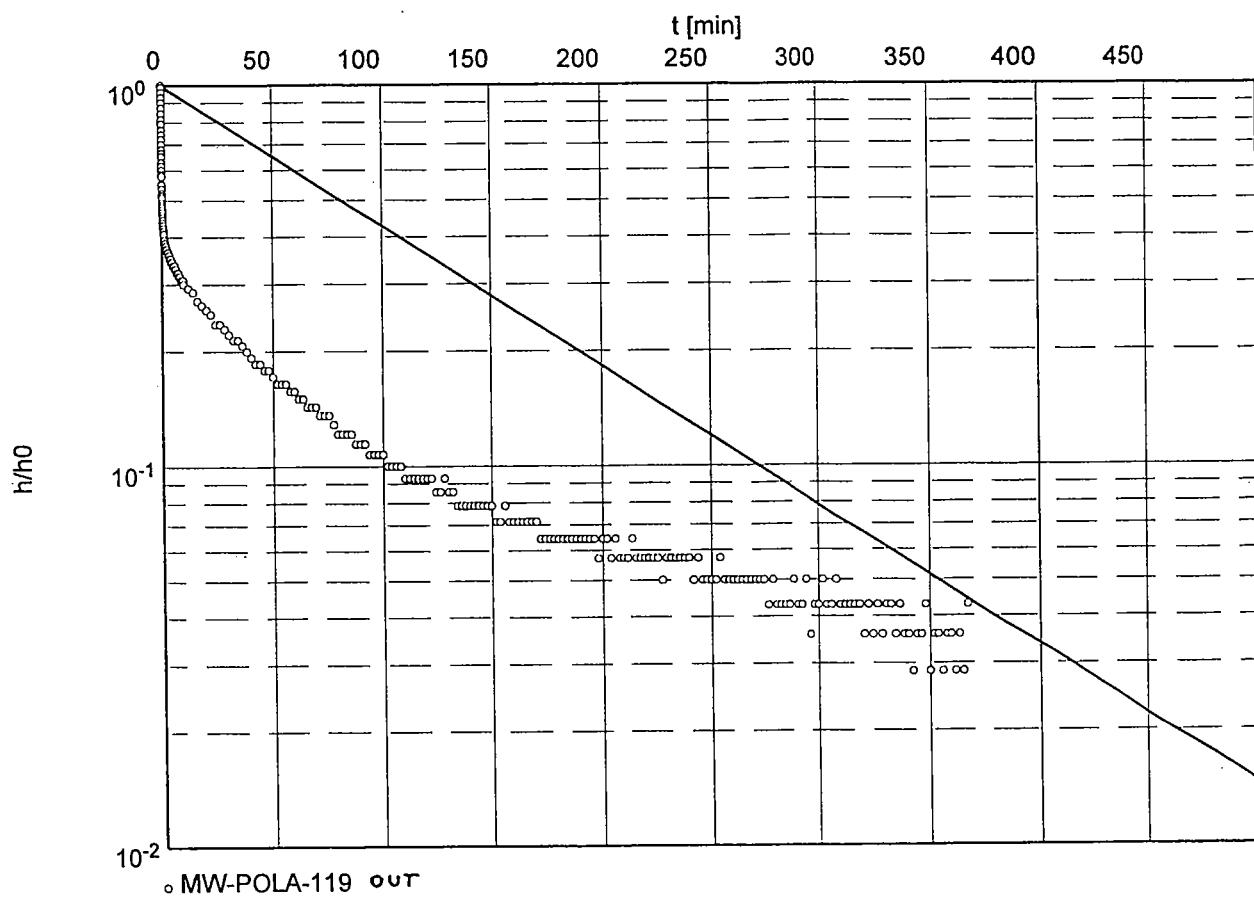
Project:

Evaluated by:

Date: 11.05.1997

Slug Test No.

Test conducted on:



Hydraulic conductivity [ft/min]: 2.29×10^{-5}

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Project:

Evaluated by:

Date: 11.05.1997

Slug Test No.

Test conducted on:

MW-POLA-119

Static water level: 0.00 ft below datum

	Pumping test duration [min]	Water level [ft]	Drawdown [ft]	
1	0.00	1.40	1.40	
2	0.09	2.50	2.50	
3	0.10	2.96	2.96	
4	0.11	1.35	1.35	
5	0.12	1.51	1.51	
6	0.13	1.42	1.42	
7	0.14	1.38	1.38	
8	0.15	1.34	1.34	
9	0.16	1.30	1.30	
10	0.17	1.26	1.26	
11	0.18	1.22	1.22	
12	0.19	1.18	1.18	
13	0.20	1.14	1.14	
14	0.21	1.11	1.11	
15	0.22	1.07	1.07	
16	0.23	1.04	1.04	
17	0.24	1.01	1.01	
18	0.25	0.98	0.98	
19	0.26	0.95	0.95	
20	0.27	0.93	0.93	
21	0.28	0.91	0.91	
22	0.29	0.88	0.88	
23	0.30	0.86	0.86	
24	0.31	0.84	0.84	
25	0.32	0.82	0.82	
26	0.33	0.81	0.81	
27	0.35	0.77	0.77	
28	0.37	0.75	0.75	
29	0.38	0.73	0.73	
30	0.40	0.72	0.72	
31	0.42	0.71	0.71	
32	0.43	0.69	0.69	
33	0.45	0.69	0.69	
34	0.47	0.68	0.68	
35	0.48	0.67	0.67	
36	0.50	0.66	0.66	
37	0.52	0.66	0.66	
38	0.53	0.65	0.65	
39	0.55	0.65	0.65	
40	0.57	0.65	0.65	
41	0.58	0.64	0.64	
42	0.60	0.64	0.64	
43	0.62	0.63	0.63	
44	0.63	0.63	0.63	
45	0.65	0.63	0.63	
46	0.67	0.62	0.62	
47	0.68	0.62	0.62	
48	0.70	0.62	0.62	
49	0.72	0.61	0.61	
50	0.73	0.61	0.61	

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Project:

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Date: 11.05.1997

Slug Test No.

Test conducted on:

MW-POLA-119

Static water level: 0.00 ft below datum

	Pumping test duration [min]	Water level [ft]	Drawdown [ft]	
51	0.75	0.61	0.61	
52	0.77	0.61	0.61	
53	0.78	0.60	0.60	
54	0.80	0.60	0.60	
55	0.82	0.60	0.60	
56	0.83	0.60	0.60	
57	0.85	0.60	0.60	
58	0.87	0.60	0.60	
59	0.88	0.60	0.60	
60	0.90	0.59	0.59	
61	0.92	0.59	0.59	
62	0.93	0.59	0.59	
63	0.95	0.59	0.59	
64	0.97	0.59	0.59	
65	0.98	0.59	0.59	
66	1.00	0.58	0.58	
67	1.20	0.57	0.57	
68	1.40	0.55	0.55	
69	1.60	0.54	0.54	
70	1.80	0.54	0.54	
71	2.00	0.53	0.53	
72	2.20	0.53	0.53	
73	2.40	0.52	0.52	
74	2.60	0.52	0.52	
75	2.80	0.51	0.51	
76	3.00	0.51	0.51	
77	3.20	0.51	0.51	
78	3.40	0.50	0.50	
79	3.60	0.50	0.50	
80	3.80	0.49	0.49	
81	4.00	0.49	0.49	
82	4.20	0.49	0.49	
83	4.40	0.48	0.48	
84	4.60	0.48	0.48	
85	4.80	0.48	0.48	
86	5.00	0.48	0.48	
87	5.20	0.47	0.47	
88	5.40	0.47	0.47	
89	5.60	0.47	0.47	
90	5.80	0.47	0.47	
91	6.00	0.47	0.47	
92	6.20	0.46	0.46	
93	6.40	0.46	0.46	
94	6.60	0.46	0.46	
95	6.80	0.45	0.45	
96	7.00	0.45	0.45	
97	7.20	0.45	0.45	
98	7.40	0.45	0.45	
99	7.60	0.45	0.45	
100	7.80	0.44	0.44	

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Project:

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Date: 11.05.1997

Slug Test No.

Test conducted on:

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Static water level: 0.00 ft below datum

	Pumping test duration [min]	Water level [ft]	Drawdown [ft]	
101	8.00	0.44	0.44	
102	8.20	0.44	0.44	
103	8.40	0.44	0.44	
104	8.60	0.43	0.43	
105	8.80	0.43	0.43	
106	9.00	0.43	0.43	
107	9.20	0.43	0.43	
108	9.40	0.43	0.43	
109	9.60	0.43	0.43	
110	9.80	0.43	0.43	
111	10.00	0.42	0.42	
112	12.00	0.41	0.41	
113	14.00	0.40	0.40	
114	16.00	0.38	0.38	
115	18.00	0.37	0.37	
116	20.00	0.36	0.36	
117	22.00	0.35	0.35	
118	24.00	0.33	0.33	
119	26.00	0.33	0.33	
120	28.00	0.32	0.32	
121	30.00	0.31	0.31	
122	32.00	0.30	0.30	
123	34.00	0.30	0.30	
124	36.00	0.29	0.29	
125	38.00	0.28	0.28	
126	40.00	0.27	0.27	
127	42.00	0.26	0.26	
128	44.00	0.26	0.26	
129	46.00	0.25	0.25	
130	48.00	0.25	0.25	
131	50.00	0.24	0.24	
132	52.00	0.23	0.23	
133	54.00	0.23	0.23	
134	56.00	0.23	0.23	
135	58.00	0.22	0.22	
136	60.00	0.22	0.22	
137	62.00	0.21	0.21	
138	64.00	0.21	0.21	
139	66.00	0.20	0.20	
140	68.00	0.20	0.20	
141	70.00	0.20	0.20	
142	72.00	0.19	0.19	
143	74.00	0.19	0.19	
144	76.00	0.19	0.19	
145	78.00	0.18	0.18	
146	80.00	0.17	0.17	
147	82.00	0.17	0.17	
148	84.00	0.17	0.17	
149	86.00	0.17	0.17	
150	88.00	0.16	0.16	

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slug/bail test analysis
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Project:

Evaluated by: Date: 11.05.1997

Slug Test No.

Test conducted on:

MW-POLA-119

Static water level: 0.00 ft below datum

	Pumping test duration [min]	Water level [ft]	Drawdown [ft]	
151	90.00	0.16	0.16	
152	92.00	0.16	0.16	
153	94.00	0.15	0.15	
154	96.00	0.15	0.15	
155	98.00	0.15	0.15	
156	100.00	0.15	0.15	
157	102.00	0.14	0.14	
158	104.00	0.14	0.14	
159	106.00	0.14	0.14	
160	108.00	0.14	0.14	
161	110.00	0.13	0.13	
162	112.00	0.13	0.13	
163	114.00	0.13	0.13	
164	116.00	0.13	0.13	
165	118.00	0.13	0.13	
166	120.00	0.13	0.13	
167	122.00	0.13	0.13	
168	124.00	0.12	0.12	
169	126.00	0.12	0.12	
170	128.00	0.13	0.13	
171	130.00	0.12	0.12	
172	132.00	0.12	0.12	
173	134.00	0.11	0.11	
174	136.00	0.11	0.11	
175	138.00	0.11	0.11	
176	140.00	0.11	0.11	
177	142.00	0.11	0.11	
178	144.00	0.11	0.11	
179	146.00	0.11	0.11	
180	148.00	0.11	0.11	
181	150.00	0.11	0.11	
182	152.00	0.10	0.10	
183	154.00	0.10	0.10	
184	156.00	0.11	0.11	
185	158.00	0.10	0.10	
186	160.00	0.10	0.10	
187	162.00	0.10	0.10	
188	164.00	0.10	0.10	
189	166.00	0.10	0.10	
190	168.00	0.10	0.10	
191	170.00	0.10	0.10	
192	172.00	0.09	0.09	
193	174.00	0.09	0.09	
194	176.00	0.09	0.09	
195	178.00	0.09	0.09	
196	180.00	0.09	0.09	
197	182.00	0.09	0.09	
198	184.00	0.09	0.09	
199	186.00	0.09	0.09	
200	188.00	0.09	0.09	

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Project:

Evaluated by: Date: 11.05.1997

Slug Test No.

Test conducted on:

MW-POLA-119

Static water level: 0.00 ft below datum

	Pumping test duration [min]	Water level [ft]	Drawdown [ft]	
201	190.00	0.09	0.09	
202	192.00	0.09	0.09	
203	194.00	0.09	0.09	
204	196.00	0.09	0.09	
205	198.00	0.08	0.08	
206	200.00	0.09	0.09	
207	202.00	0.09	0.09	
208	204.00	0.08	0.08	
209	206.00	0.09	0.09	
210	208.00	0.08	0.08	
211	210.00	0.08	0.08	
212	212.00	0.08	0.08	
213	214.00	0.09	0.09	
214	216.00	0.08	0.08	
215	218.00	0.08	0.08	
216	220.00	0.08	0.08	
217	222.00	0.08	0.08	
218	224.00	0.08	0.08	
219	226.00	0.08	0.08	
220	228.00	0.07	0.07	
221	230.00	0.08	0.08	
222	232.00	0.08	0.08	
223	234.00	0.08	0.08	
224	236.00	0.08	0.08	
225	238.00	0.08	0.08	
226	240.00	0.08	0.08	
227	242.00	0.07	0.07	
228	244.00	0.08	0.08	
229	246.00	0.07	0.07	
230	248.00	0.07	0.07	
231	250.00	0.07	0.07	
232	252.00	0.07	0.07	
233	254.00	0.08	0.08	
234	256.00	0.07	0.07	
235	258.00	0.07	0.07	
236	260.00	0.07	0.07	
237	262.00	0.07	0.07	
238	264.00	0.07	0.07	
239	266.00	0.07	0.07	
240	268.00	0.07	0.07	
241	270.00	0.07	0.07	
242	272.00	0.07	0.07	
243	274.00	0.07	0.07	
244	276.00	0.06	0.06	
245	278.00	0.07	0.07	
246	280.00	0.06	0.06	
247	282.00	0.06	0.06	
248	284.00	0.06	0.06	
249	286.00	0.06	0.06	
250	288.00	0.07	0.07	

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Pumping test analysis
 Recovery method after
 THEIS & JACOB
 Unconfined aquifer

Page 1

Project: Hamilton BRAC

Evaluated by: P.L. Date: 5/9/97

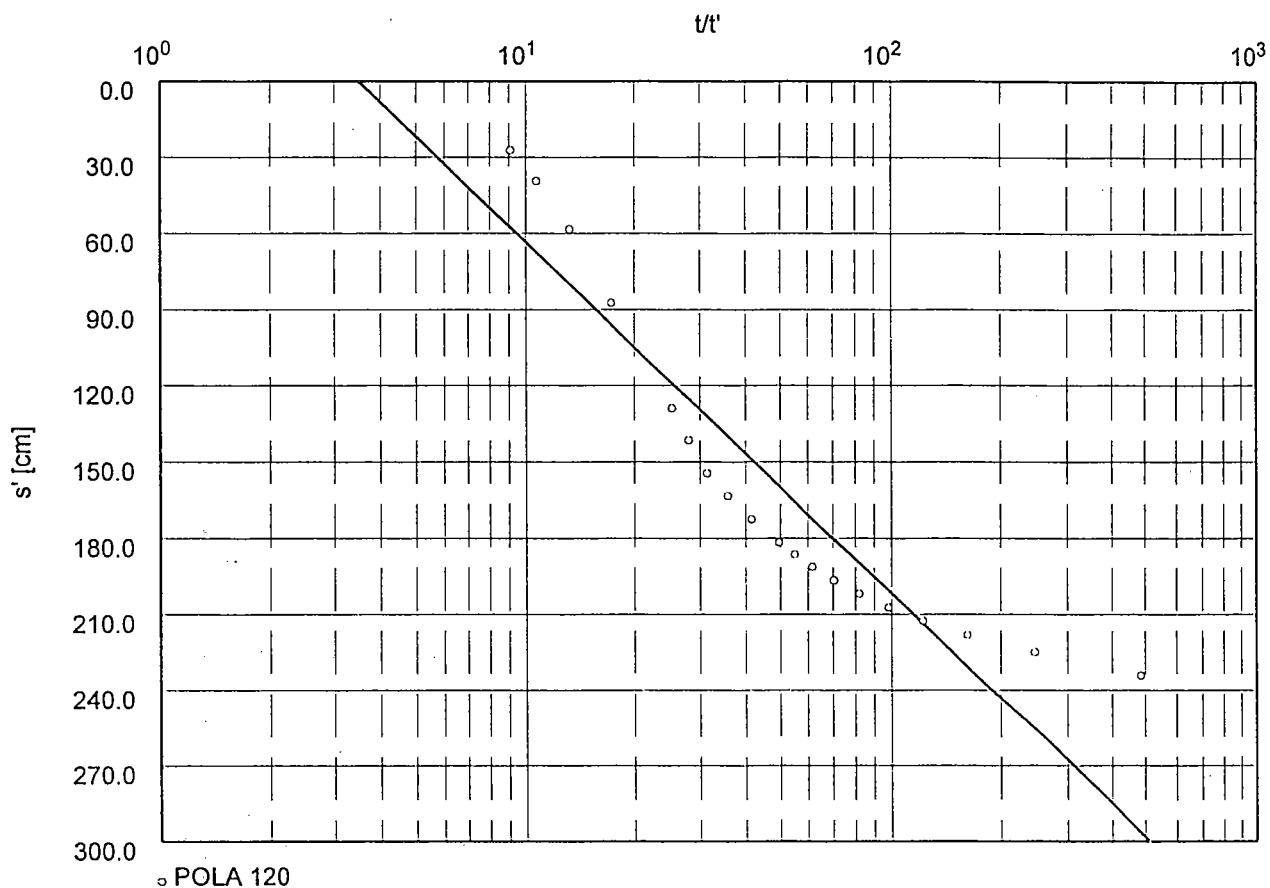
Pumping Test No. 1

Test conducted on: 4/2/97

MW-POLA-120

Discharge 0.63 U.S.gal/min

Pumping test duration: 14580 s



Transmissivity [cm^2/s]: 5.25×10^{-2}

Hydraulic conductivity [cm/s]: 5.75×10^{-5}

Aquifer thickness [cm]: 914.4

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Pumping test analysis
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Project:

Evaluated by:

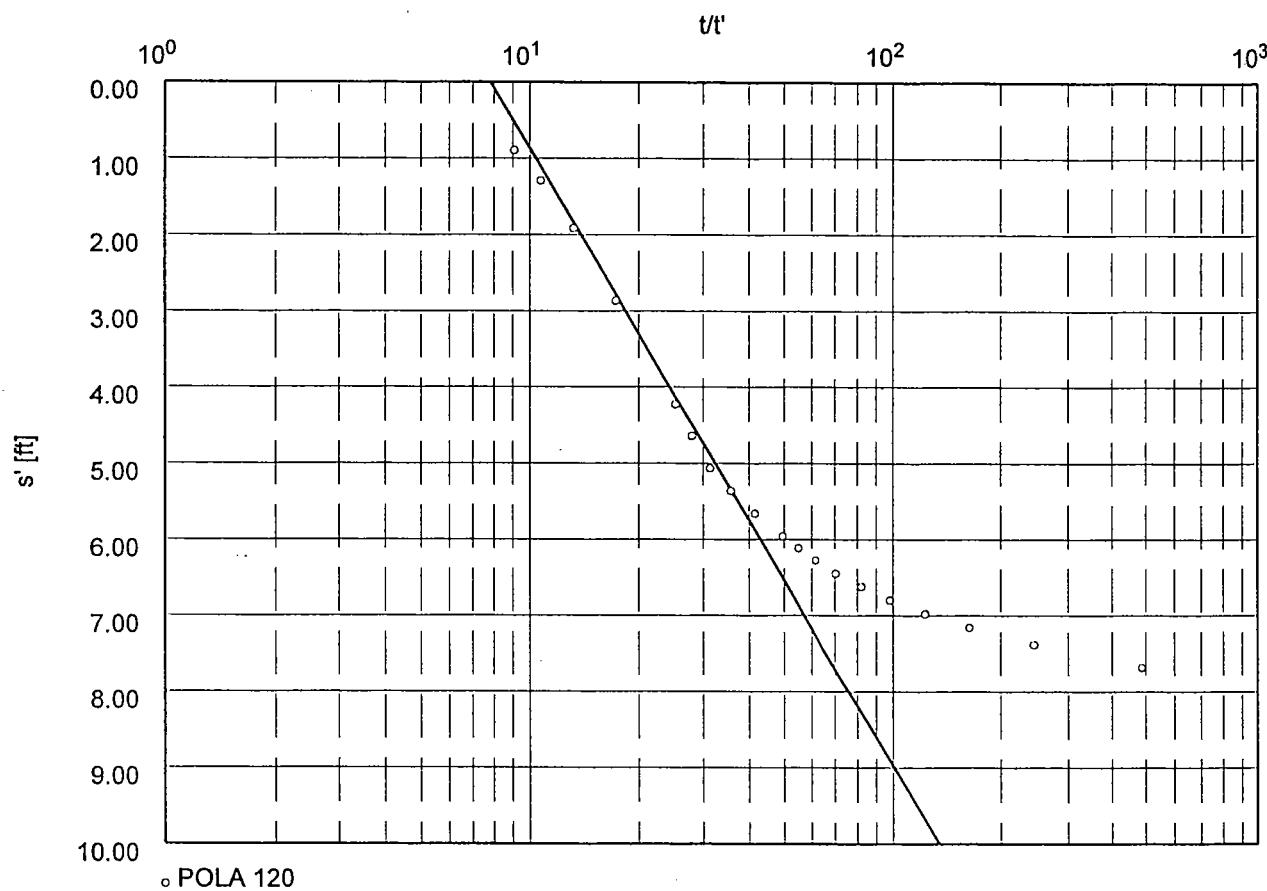
Date: 09.05.1997

Pumping Test No.

Test conducted on:

Discharge 0.63 U.S.gal/min

Pumping test duration: 243.00 min



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slug/bail test analysis
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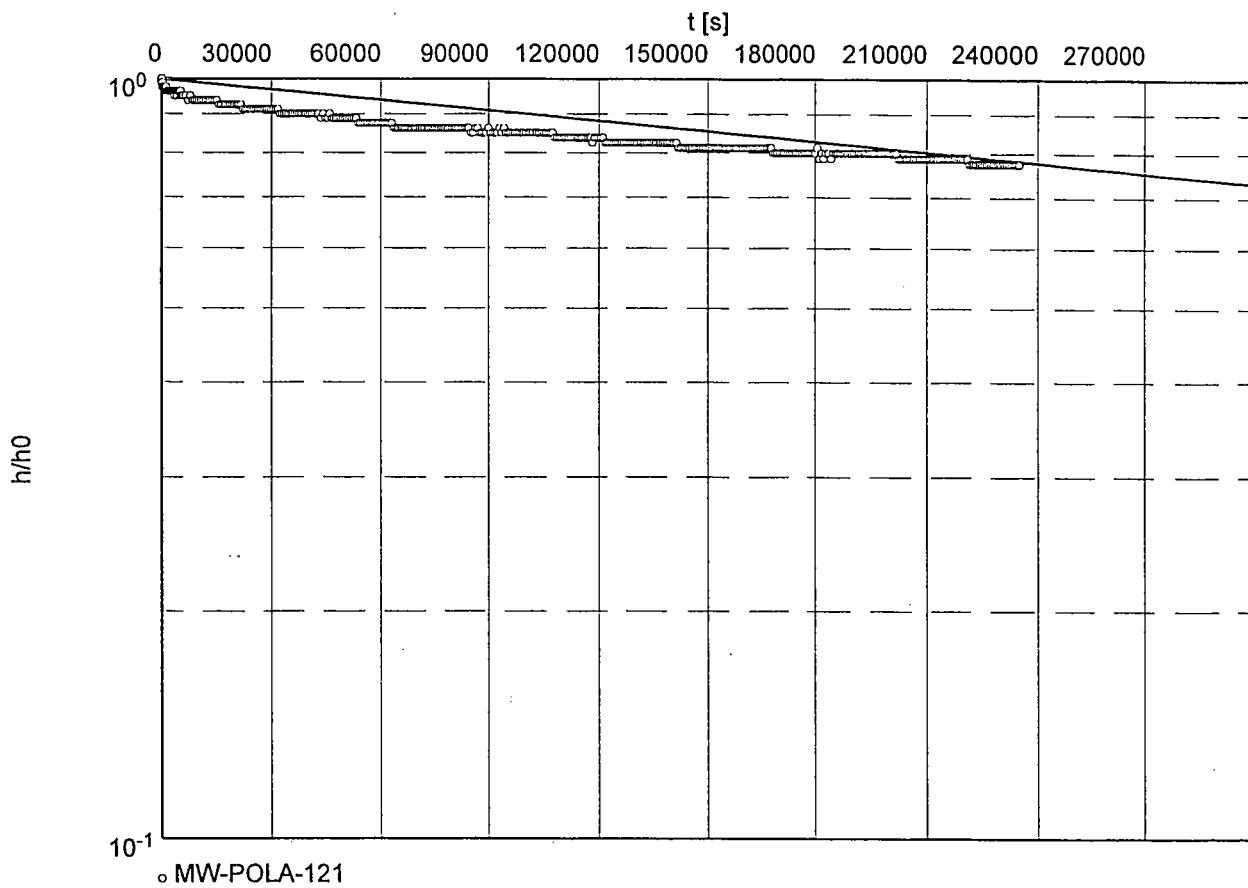
Project: HAMILTON BRAC-POL HILL

Evaluated by: P.L. Date: 5/14/97

Slug Test No. SLUG IN

Test conducted on: 5/2-5/1997

MW-POLA-121



Hydraulic conductivity [cm/s]: 6.96×10^{-8}

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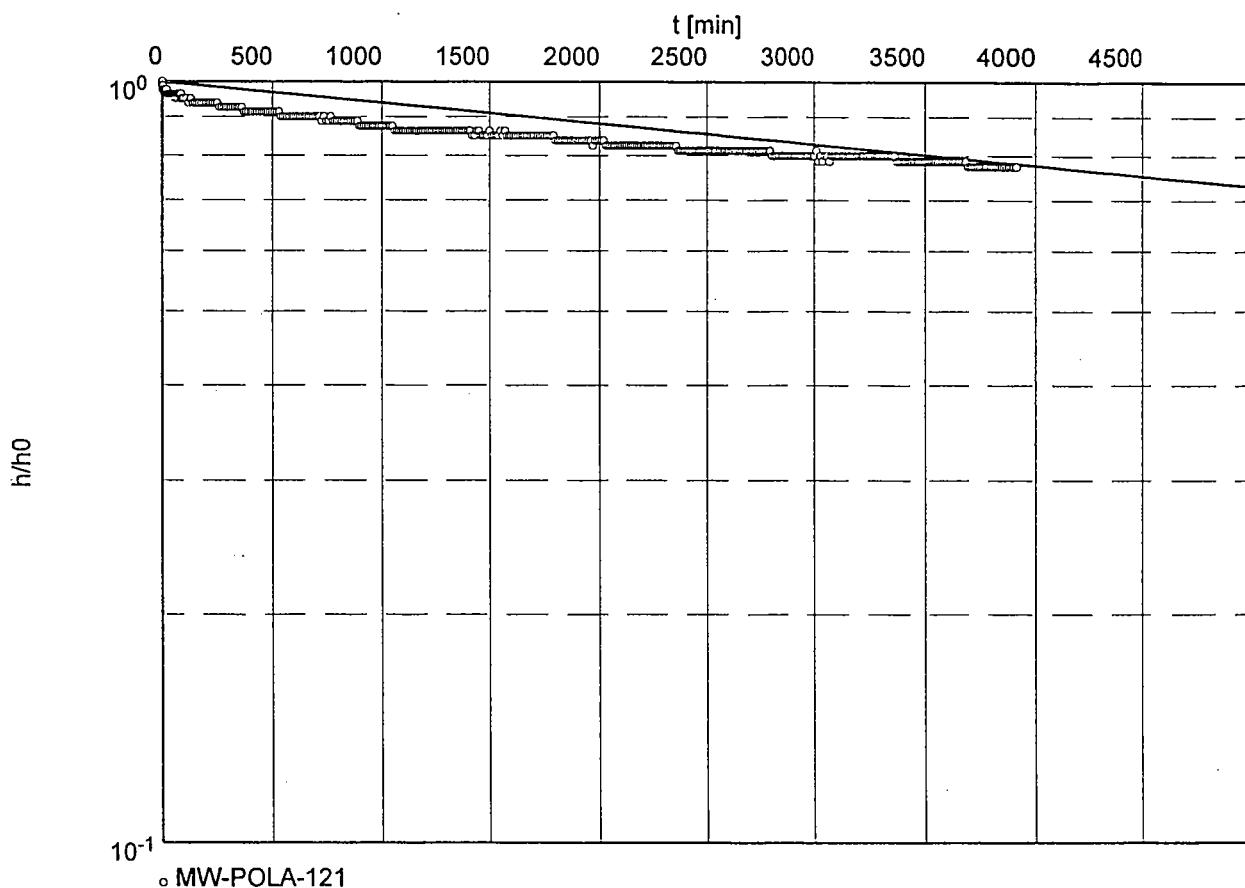
Project: HAMILTON BRAC-POL HILL

Evaluated by: Date: 14.05.1997

Slug Test No. 1

Test conducted on: 5/2-5/5/1997

MW-POLA-121



Hydraulic conductivity [ft/min]: 1.36×10^{-7}

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Project: HAMILTON BRAC-POL HILL

Evaluated by: Date: 14.05.1997

Slug Test No. 1

Test conducted on: 5/2-5/1997

MW-POLA-121

MW-POLA-121

Static water level: 0.00 ft below datum

	Pumping test duration [min]	Water level [ft]	Drawdown [ft]	
1	0.00	0.80	0.80	
2	0.50	0.80	0.80	
3	0.52	0.80	0.80	
4	0.53	0.80	0.80	
5	0.55	0.80	0.80	
6	0.57	0.80	0.80	
7	0.58	0.80	0.80	
8	0.60	0.80	0.80	
9	0.62	0.80	0.80	
10	0.63	0.80	0.80	
11	0.65	0.79	0.79	
12	0.67	0.80	0.80	
13	0.68	0.80	0.80	
14	0.70	0.80	0.80	
15	0.72	0.80	0.80	
16	0.73	0.80	0.80	
17	0.75	0.80	0.80	
18	0.77	0.80	0.80	
19	0.78	0.80	0.80	
20	0.80	0.79	0.79	
21	0.82	0.79	0.79	
22	0.83	0.80	0.80	
23	0.85	0.80	0.80	
24	0.87	0.79	0.79	
25	0.88	0.79	0.79	
26	0.90	0.79	0.79	
27	0.92	0.79	0.79	
28	0.93	0.80	0.80	
29	0.95	0.79	0.79	
30	0.97	0.79	0.79	
31	0.98	0.79	0.79	
32	1.00	0.79	0.79	
33	1.20	0.79	0.79	
34	1.40	0.79	0.79	
35	1.60	0.79	0.79	
36	1.80	0.79	0.79	
37	2.00	0.79	0.79	
38	2.20	0.79	0.79	
39	2.40	0.79	0.79	
40	2.60	0.78	0.78	
41	2.80	0.79	0.79	
42	3.00	0.79	0.79	
43	3.20	0.79	0.79	
44	3.40	0.79	0.79	
45	3.60	0.79	0.79	
46	3.80	0.78	0.78	
47	4.00	0.79	0.79	
48	4.20	0.79	0.79	
49	4.40	0.78	0.78	
50	4.60	0.78	0.78	

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Project: HAMILTON BRAC-POL HILL

Evaluated by: Date: 14.05.1997

Slug Test No. 1

Test conducted on: 5/2-5/5/1997

MW-POLA-121

MW-POLA-121

Static water level: 0.00 ft below datum

	Pumping test duration [min]	Water level [ft]	Drawdown [ft]	
51	4.80	0.78	0.78	
52	5.00	0.78	0.78	
53	5.20	0.78	0.78	
54	5.40	0.78	0.78	
55	5.60	0.78	0.78	
56	5.80	0.78	0.78	
57	6.00	0.78	0.78	
58	6.20	0.78	0.78	
59	6.40	0.78	0.78	
60	6.60	0.78	0.78	
61	6.80	0.78	0.78	
62	7.00	0.78	0.78	
63	7.20	0.78	0.78	
64	7.40	0.78	0.78	
65	7.60	0.78	0.78	
66	7.80	0.78	0.78	
67	8.00	0.78	0.78	
68	8.20	0.78	0.78	
69	8.40	0.78	0.78	
70	8.60	0.78	0.78	
71	8.80	0.78	0.78	
72	9.00	0.78	0.78	
73	9.20	0.78	0.78	
74	9.40	0.78	0.78	
75	9.60	0.78	0.78	
76	9.80	0.78	0.78	
77	10.00	0.78	0.78	
78	12.00	0.78	0.78	
79	14.00	0.78	0.78	
80	16.00	0.78	0.78	
81	18.00	0.78	0.78	
82	20.00	0.77	0.77	
83	22.00	0.78	0.78	
84	24.00	0.77	0.77	
85	26.00	0.77	0.77	
86	28.00	0.77	0.77	
87	30.00	0.77	0.77	
88	32.00	0.77	0.77	
89	34.00	0.77	0.77	
90	36.00	0.77	0.77	
91	38.00	0.77	0.77	
92	40.00	0.77	0.77	
93	42.00	0.77	0.77	
94	44.00	0.77	0.77	
95	46.00	0.77	0.77	
96	48.00	0.77	0.77	
97	50.00	0.77	0.77	
98	52.00	0.77	0.77	
99	54.00	0.77	0.77	
100	56.00	0.77	0.77	

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Project: HAMILTON BRAC-POL HILL

Evaluated by: Date: 14.05.1997

Slug Test No. 1

Test conducted on: 5/2-5/1997

MW-POLA-121

MW-POLA-121

Static water level: 0.00 ft below datum

	Pumping test duration [min]	Water level [ft]	Drawdown [ft]	
101	58.00	0.77	0.77	
102	60.00	0.76	0.76	
103	62.00	0.77	0.77	
104	64.00	0.77	0.77	
105	66.00	0.77	0.77	
106	68.00	0.77	0.77	
107	70.00	0.76	0.76	
108	72.00	0.77	0.77	
109	74.00	0.77	0.77	
110	76.00	0.77	0.77	
111	78.00	0.77	0.77	
112	80.00	0.77	0.77	
113	82.00	0.76	0.76	
114	84.00	0.77	0.77	
115	86.00	0.77	0.77	
116	88.00	0.76	0.76	
117	90.00	0.76	0.76	
118	92.00	0.76	0.76	
119	94.00	0.76	0.76	
120	96.00	0.76	0.76	
121	98.00	0.76	0.76	
122	100.00	0.76	0.76	
123	110.00	0.76	0.76	
124	120.00	0.75	0.75	
125	130.00	0.76	0.76	
126	140.00	0.75	0.75	
127	150.00	0.75	0.75	
128	160.00	0.75	0.75	
129	170.00	0.75	0.75	
130	180.00	0.75	0.75	
131	190.00	0.75	0.75	
132	200.00	0.75	0.75	
133	210.00	0.75	0.75	
134	220.00	0.75	0.75	
135	230.00	0.75	0.75	
136	240.00	0.75	0.75	
137	250.00	0.75	0.75	
138	260.00	0.74	0.74	
139	270.00	0.74	0.74	
140	280.00	0.74	0.74	
141	290.00	0.74	0.74	
142	300.00	0.74	0.74	
143	310.00	0.74	0.74	
144	320.00	0.74	0.74	
145	330.00	0.74	0.74	
146	340.00	0.74	0.74	
147	350.00	0.74	0.74	
148	360.00	0.74	0.74	
149	370.00	0.73	0.73	
150	380.00	0.73	0.73	

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Project: HAMILTON BRAC-POL HILL

Evaluated by: Date: 14.05.1997

Slug Test No. 1

Test conducted on: 5/2-5/5/1997

MW-POLA-121

MW-POLA-121

Static water level: 0.00 ft below datum

	Pumping test duration [min]	Water level [ft]	Drawdown [ft]	
151	390.00	0.73	0.73	
152	400.00	0.73	0.73	
153	410.00	0.73	0.73	
154	420.00	0.73	0.73	
155	430.00	0.73	0.73	
156	440.00	0.73	0.73	
157	450.00	0.73	0.73	
158	460.00	0.73	0.73	
159	470.00	0.73	0.73	
160	480.00	0.73	0.73	
161	490.00	0.73	0.73	
162	500.00	0.73	0.73	
163	510.00	0.73	0.73	
164	520.00	0.73	0.73	
165	530.00	0.73	0.73	
166	540.00	0.72	0.72	
167	550.00	0.72	0.72	
168	560.00	0.72	0.72	
169	570.00	0.72	0.72	
170	580.00	0.72	0.72	
171	590.00	0.72	0.72	
172	600.00	0.72	0.72	
173	610.00	0.72	0.72	
174	620.00	0.72	0.72	
175	630.00	0.72	0.72	
176	640.00	0.72	0.72	
177	650.00	0.72	0.72	
178	660.00	0.72	0.72	
179	670.00	0.72	0.72	
180	680.00	0.72	0.72	
181	690.00	0.72	0.72	
182	700.00	0.72	0.72	
183	710.00	0.72	0.72	
184	720.00	0.72	0.72	
185	730.00	0.71	0.71	
186	740.00	0.72	0.72	
187	750.00	0.71	0.71	
188	760.00	0.71	0.71	
189	770.00	0.72	0.72	
190	780.00	0.71	0.71	
191	790.00	0.71	0.71	
192	800.00	0.71	0.71	
193	810.00	0.71	0.71	
194	820.00	0.71	0.71	
195	830.00	0.71	0.71	
196	840.00	0.71	0.71	
197	850.00	0.71	0.71	
198	860.00	0.71	0.71	
199	870.00	0.71	0.71	
200	880.00	0.71	0.71	

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Project: HAMILTON BRAC-POL HILL

Evaluated by: Date: 14.05.1997

Slug Test No. 1

Test conducted on: 5/2-5/5/1997

MW-POLA-121

MW-POLA-121

Static water level: 0.00 ft below datum

	Pumping test duration [min]	Water level [ft]	Drawdown [ft]	
201	890.00	0.71	0.71	
202	900.00	0.70	0.70	
203	910.00	0.70	0.70	
204	920.00	0.70	0.70	
205	930.00	0.70	0.70	
206	940.00	0.70	0.70	
207	950.00	0.70	0.70	
208	960.00	0.70	0.70	
209	970.00	0.70	0.70	
210	980.00	0.70	0.70	
211	990.00	0.70	0.70	
212	1000.00	0.70	0.70	
213	1010.00	0.70	0.70	
214	1020.00	0.70	0.70	
215	1030.00	0.70	0.70	
216	1040.00	0.70	0.70	
217	1050.00	0.70	0.70	
218	1060.00	0.69	0.69	
219	1070.00	0.69	0.69	
220	1080.00	0.69	0.69	
221	1090.00	0.69	0.69	
222	1100.00	0.69	0.69	
223	1110.00	0.69	0.69	
224	1120.00	0.69	0.69	
225	1130.00	0.69	0.69	
226	1140.00	0.69	0.69	
227	1150.00	0.69	0.69	
228	1160.00	0.69	0.69	
229	1170.00	0.69	0.69	
230	1180.00	0.69	0.69	
231	1190.00	0.69	0.69	
232	1200.00	0.69	0.69	
233	1210.00	0.69	0.69	
234	1220.00	0.69	0.69	
235	1230.00	0.69	0.69	
236	1240.00	0.69	0.69	
237	1250.00	0.69	0.69	
238	1260.00	0.69	0.69	
239	1270.00	0.69	0.69	
240	1280.00	0.69	0.69	
241	1290.00	0.69	0.69	
242	1300.00	0.69	0.69	
243	1310.00	0.69	0.69	
244	1320.00	0.69	0.69	
245	1330.00	0.69	0.69	
246	1340.00	0.69	0.69	
247	1350.00	0.69	0.69	
248	1360.00	0.69	0.69	
249	1370.00	0.69	0.69	
250	1380.00	0.69	0.69	

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Project: HAMILTON BRAC-POL HILL

Evaluated by: Date: 14.05.1997

Slug Test No. 1

Test conducted on: 5/2-5/1997

MW-POLA-121

MW-POLA-121

Static water level: 0.00 ft below datum

	Pumping test duration [min]	Water level [ft]	Drawdown [ft]	
251	1390.00	0.69	0.69	
252	1400.00	0.69	0.69	
253	1410.00	0.69	0.69	
254	1420.00	0.68	0.68	
255	1430.00	0.68	0.68	
256	1440.00	0.69	0.69	
257	1450.00	0.69	0.69	
258	1460.00	0.68	0.68	
259	1470.00	0.68	0.68	
260	1480.00	0.68	0.68	
261	1490.00	0.68	0.68	
262	1500.00	0.69	0.69	
263	1510.00	0.68	0.68	
264	1520.00	0.68	0.68	
265	1530.00	0.68	0.68	
266	1540.00	0.68	0.68	
267	1550.00	0.69	0.69	
268	1560.00	0.68	0.68	
269	1570.00	0.69	0.69	
270	1580.00	0.68	0.68	
271	1590.00	0.68	0.68	
272	1600.00	0.68	0.68	
273	1610.00	0.68	0.68	
274	1620.00	0.68	0.68	
275	1630.00	0.68	0.68	
276	1640.00	0.68	0.68	
277	1650.00	0.68	0.68	
278	1660.00	0.68	0.68	
279	1670.00	0.68	0.68	
280	1680.00	0.68	0.68	
281	1690.00	0.68	0.68	
282	1700.00	0.68	0.68	
283	1710.00	0.68	0.68	
284	1720.00	0.68	0.68	
285	1730.00	0.68	0.68	
286	1740.00	0.68	0.68	
287	1750.00	0.68	0.68	
288	1760.00	0.68	0.68	
289	1770.00	0.68	0.68	
290	1780.00	0.68	0.68	
291	1790.00	0.68	0.68	
292	1800.00	0.67	0.67	
293	1810.00	0.67	0.67	
294	1820.00	0.67	0.67	
295	1830.00	0.67	0.67	
296	1840.00	0.67	0.67	
297	1850.00	0.67	0.67	
298	1860.00	0.67	0.67	
299	1870.00	0.67	0.67	
300	1880.00	0.67	0.67	

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Project: HAMILTON BRAC-POL HILL

Evaluated by: Date: 14.05.1997

Slug Test No. 1

Test conducted on: 5/2-5/5/1997

MW-POLA-121

MW-POLA-121

Static water level: 0.00 ft below datum

	Pumping test duration [min]	Water level [ft]	Drawdown [ft]	
301	1890.00	0.67	0.67	
302	1900.00	0.67	0.67	
303	1910.00	0.67	0.67	
304	1920.00	0.67	0.67	
305	1930.00	0.67	0.67	
306	1940.00	0.67	0.67	
307	1950.00	0.67	0.67	
308	1960.00	0.67	0.67	
309	1970.00	0.66	0.66	
310	1980.00	0.67	0.67	
311	1990.00	0.67	0.67	
312	2000.00	0.67	0.67	
313	2010.00	0.67	0.67	
314	2020.00	0.67	0.67	
315	2030.00	0.66	0.66	
316	2040.00	0.66	0.66	
317	2050.00	0.66	0.66	
318	2060.00	0.66	0.66	
319	2070.00	0.66	0.66	
320	2080.00	0.66	0.66	
321	2090.00	0.66	0.66	
322	2100.00	0.66	0.66	
323	2110.00	0.66	0.66	
324	2120.00	0.66	0.66	
325	2130.00	0.66	0.66	
326	2140.00	0.66	0.66	
327	2150.00	0.66	0.66	
328	2160.00	0.66	0.66	
329	2170.00	0.66	0.66	
330	2180.00	0.66	0.66	
331	2190.00	0.66	0.66	
332	2200.00	0.66	0.66	
333	2210.00	0.66	0.66	
334	2220.00	0.66	0.66	
335	2230.00	0.66	0.66	
336	2240.00	0.66	0.66	
337	2250.00	0.66	0.66	
338	2260.00	0.66	0.66	
339	2270.00	0.66	0.66	
340	2280.00	0.66	0.66	
341	2290.00	0.66	0.66	
342	2300.00	0.66	0.66	
343	2310.00	0.66	0.66	
344	2320.00	0.66	0.66	
345	2330.00	0.66	0.66	
346	2340.00	0.66	0.66	
347	2350.00	0.66	0.66	
348	2360.00	0.66	0.66	
349	2370.00	0.65	0.65	
350	2380.00	0.65	0.65	

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Project: HAMILTON BRAC-POL HILL

Evaluated by: Date: 14.05.1997

Slug Test No. 1

Test conducted on: 5/2-5/5/1997

MW-POLA-121

MW-POLA-121

Static water level: 0.00 ft below datum

	Pumping test duration [min]	Water level [ft]	Drawdown [ft]	
351	2390.00	0.65	0.65	
352	2400.00	0.65	0.65	
353	2410.00	0.65	0.65	
354	2420.00	0.65	0.65	
355	2430.00	0.65	0.65	
356	2440.00	0.65	0.65	
357	2450.00	0.65	0.65	
358	2460.00	0.65	0.65	
359	2470.00	0.65	0.65	
360	2480.00	0.65	0.65	
361	2490.00	0.65	0.65	
362	2500.00	0.65	0.65	
363	2510.00	0.65	0.65	
364	2520.00	0.65	0.65	
365	2530.00	0.65	0.65	
366	2540.00	0.65	0.65	
367	2550.00	0.65	0.65	
368	2560.00	0.65	0.65	
369	2570.00	0.65	0.65	
370	2580.00	0.65	0.65	
371	2590.00	0.65	0.65	
372	2600.00	0.65	0.65	
373	2610.00	0.65	0.65	
374	2620.00	0.65	0.65	
375	2630.00	0.65	0.65	
376	2640.00	0.65	0.65	
377	2650.00	0.65	0.65	
378	2660.00	0.65	0.65	
379	2670.00	0.65	0.65	
380	2680.00	0.65	0.65	
381	2690.00	0.65	0.65	
382	2700.00	0.65	0.65	
383	2710.00	0.65	0.65	
384	2720.00	0.65	0.65	
385	2730.00	0.65	0.65	
386	2740.00	0.65	0.65	
387	2750.00	0.65	0.65	
388	2760.00	0.65	0.65	
389	2770.00	0.65	0.65	
390	2780.00	0.65	0.65	
391	2790.00	0.65	0.65	
392	2800.00	0.64	0.64	
393	2810.00	0.64	0.64	
394	2820.00	0.64	0.64	
395	2830.00	0.64	0.64	
396	2840.00	0.64	0.64	
397	2850.00	0.64	0.64	
398	2860.00	0.64	0.64	
399	2870.00	0.64	0.64	
400	2880.00	0.64	0.64	

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Project: HAMILTON BRAC-POL HILL

Evaluated by: Date: 14.05.1997

Slug Test No. 1

Test conducted on: 5/2-5/5/1997

MW-POLA-121

MW-POLA-121

Static water level: 0.00 ft below datum

	Pumping test duration [min]	Water level [ft]	Drawdown [ft]	
401	2890.00	0.64	0.64	
402	2900.00	0.64	0.64	
403	2910.00	0.64	0.64	
404	2920.00	0.64	0.64	
405	2930.00	0.64	0.64	
406	2940.00	0.64	0.64	
407	2950.00	0.64	0.64	
408	2960.00	0.64	0.64	
409	2970.00	0.64	0.64	
410	2980.00	0.64	0.64	
411	2990.00	0.64	0.64	
412	3000.00	0.64	0.64	
413	3010.00	0.65	0.65	
414	3020.00	0.63	0.63	
415	3030.00	0.64	0.64	
416	3040.00	0.63	0.63	
417	3050.00	0.64	0.64	
418	3060.00	0.64	0.64	
419	3070.00	0.63	0.63	
420	3080.00	0.64	0.64	
421	3090.00	0.64	0.64	
422	3100.00	0.64	0.64	
423	3110.00	0.64	0.64	
424	3120.00	0.64	0.64	
425	3130.00	0.64	0.64	
426	3140.00	0.64	0.64	
427	3150.00	0.64	0.64	
428	3160.00	0.64	0.64	
429	3170.00	0.64	0.64	
430	3180.00	0.64	0.64	
431	3190.00	0.64	0.64	
432	3200.00	0.64	0.64	
433	3210.00	0.64	0.64	
434	3220.00	0.64	0.64	
435	3230.00	0.64	0.64	
436	3240.00	0.64	0.64	
437	3250.00	0.64	0.64	
438	3260.00	0.64	0.64	
439	3270.00	0.64	0.64	
440	3280.00	0.64	0.64	
441	3290.00	0.64	0.64	
442	3300.00	0.64	0.64	
443	3310.00	0.64	0.64	
444	3320.00	0.64	0.64	
445	3330.00	0.64	0.64	
446	3340.00	0.64	0.64	
447	3350.00	0.64	0.64	
448	3360.00	0.64	0.64	
449	3370.00	0.63	0.63	
450	3380.00	0.63	0.63	

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Project: HAMILTON BRAC-POL HILL

Evaluated by: Date: 14.05.1997

Slug Test No. 1

Test conducted on: 5/2-5/5/1997

MW-POLA-121

MW-POLA-121

Static water level: 0.00 ft below datum

	Pumping test duration [min]	Water level [ft]	Drawdown [ft]	
451	3390.00	0.63	0.63	
452	3400.00	0.63	0.63	
453	3410.00	0.63	0.63	
454	3420.00	0.63	0.63	
455	3430.00	0.63	0.63	
456	3440.00	0.63	0.63	
457	3450.00	0.63	0.63	
458	3460.00	0.63	0.63	
459	3470.00	0.63	0.63	
460	3480.00	0.63	0.63	
461	3490.00	0.63	0.63	
462	3500.00	0.63	0.63	
463	3510.00	0.63	0.63	
464	3520.00	0.63	0.63	
465	3530.00	0.63	0.63	
466	3540.00	0.63	0.63	
467	3550.00	0.63	0.63	
468	3560.00	0.63	0.63	
469	3570.00	0.63	0.63	
470	3580.00	0.63	0.63	
471	3590.00	0.63	0.63	
472	3600.00	0.63	0.63	
473	3610.00	0.63	0.63	
474	3620.00	0.63	0.63	
475	3630.00	0.63	0.63	
476	3640.00	0.63	0.63	
477	3650.00	0.63	0.63	
478	3660.00	0.63	0.63	
479	3670.00	0.63	0.63	
480	3680.00	0.63	0.63	
481	3690.00	0.63	0.63	
482	3700.00	0.62	0.62	
483	3710.00	0.62	0.62	
484	3720.00	0.62	0.62	
485	3730.00	0.62	0.62	
486	3740.00	0.62	0.62	
487	3750.00	0.62	0.62	
488	3760.00	0.62	0.62	
489	3770.00	0.62	0.62	
490	3780.00	0.62	0.62	
491	3790.00	0.62	0.62	
492	3800.00	0.62	0.62	
493	3810.00	0.62	0.62	
494	3820.00	0.62	0.62	
495	3830.00	0.62	0.62	
496	3840.00	0.62	0.62	
497	3850.00	0.62	0.62	
498	3860.00	0.62	0.62	
499	3870.00	0.62	0.62	
500	3880.00	0.62	0.62	

